HOW FILM AND TV MUSIC COMMUNICATE – VOL II

Film / TV music analysed in vol.2

An Inconvenient Truth (Michael Brook)
Taxi to the Dar Side (Ivor Guest and Robert Logan)
Fahrenheit 911 (Jeff Gibbs)
Visit Scotland TV ad (Paul Mounsey)
Audi A5 'rhythm of lines' ad (Dustin O'Halloran)
Ford Mondeo 'balloons' ad (Michael Andrews)
The Bridge (Alex Heffes)
Blue Planet (George Fenton)
Planet Earth (George Fenton)
The Corporation (Leonard J. Paul)
Life in the Undergrowth (David Poore & Ben Salisbury)
John Pilger Documentary - Paying the Price: Killing the Children of Iraq (Nick Russell-Pavier)
World in Action (Keith Mansfield/Shawn Philips)
Panorama (Francis Lai)
Life (George Fenton)
Horizon sonic logo (David Lowe)
The Oil Factor (Fritz Heede)
The Andrew Marr Show (Debbie Wiseman)
Lost (Michael Giacchano)
The Waking Dead (Bear McCreary)
Midnight Man (Ben Bartlett)
Twin Peaks (Angelo Badalmenti)
Silent Witness (John Harle)
Inspector Morse (Barrington Pheloung)
Deep Water (Harry Escott)
Inspector Lynley Mysteries (Andy Price)
Ten Days to War (Daniel Pemberton)
Red Riding (Adrian Johnston) *Dexter* (Rolf Kent and Daniel Licht)
The Pelican Brief (James Horner)
Halloween (John Carpenter)
Back to the Future (Alan Silvestri)
The Twilight Zone (Marius Constant)
Batman Returns (Danny Elfman)
Close Encounters of the Third Kind (John Williams)
District 9 (Clinton Shorter)
Final Destination (Shirley Walker)
Predator (Alan Silvestri)
Silence of the Lambs (Howard Shore)
The Exorcist (Tubular Bells - Mike Oldfield)
The Thing (John Carpenter)
Wrong Turn (Elia Cmiral)
A Nightmare on Elm Street (Charles Bernstein)
Scream (Marco Beltrami)
Poltergeist (Jerry Goldsmith)
The Grudge (Christopher Young)
Anaconda (Randy Edelman)
Silence of the Lambs (Howard Shore)
The Shining (Wendy Carlos)
Alien (Jerry Goldsmith / Howard Hanson)
Aliens (James Horner)
Apollo 13 (James Horner)
Independence Day (David Arnold)
Star Trek (Alexander Courage, Jerry Goldsmith, James Horner and Michael Giacchano)
Mission to Mars (Ennio Morricone)
Jurassic Park and *E.T.* (John Williams)
Tinker Tailor Soldier Spy (Alberto Iglasia)
The Bourne Ultimatum (John Powell)
The Game & Seven (Howard Shore)
The Village & Sixth Sense (James Newton Howard)

Hannibal (Hans Zimmer)
Psycho, Cape Fear & Vertigo (Bernard Herrmann)
The Godfather (Nino Rota)
Zodiac (Howard Shore)
Deadly Pursuit (John Scott)
Avatar (James Horner)
Inception (Hans Zimmer) *The Ghost* (Alexandre Desplat)
Gattaca (Michael Nyman)
Sneakers (James Horner)
Pacific Heights (Hans Zimmer)
Cast Away (Alan Silvestri)
Contact (Alan Silvestri)
End of the Affair (Michael Nyman)
Local Hero (Mark Knoplfer)
The King's Speech (Alexandre Desplat)
Revolutionary Road (Thomas Newman)
Le Grand Bleu (Eric Serra)
Touching the Void (Alex Heffes)
Love Actually (Craig Armstrong)
The Beach (Moby)
Rogue (Francis Tetaz)
Chariots of Fire (Vangelis)
The Truman Show (Philip Glass/Burkhard Dalowitz)
United 93 (John Powell)
Tron Legacy (Guy-Manuel de Homem-Christo & Thomas Bangalter - aka Daft Punk)
28 Days Later ('In Paradisum' – Gabriel Faure)
JFK, Superman, Raiders of the Lost Ark, Star Wars (John Williams)
Pearl Harbour (Hans Zimmer)
Batman Returns (Danny Elfman)
Inception (Hans Zimmer)
Rocky (Bill Conti)
The Long Good Friday (Francis Monkman)
Rocky (Bill Conti)
Wall Street (Stewart Copeland)
Mission Impossible (Lalo Shiffrin)
The Bourne Identity (John Powell)
Superman (John Williams)
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Universal Film Opening (Jerry Goldsmith)
The Matrix (Don Davis)
20th Century Fox Fanfare (Alfred Newman)

CONTENTS

05) **IN SPACE EVERYONE CAN HEAR THE CHORD CHANGES** (15,308 words)

Is there an inherently 'sci-fi' way of composing music? If so, how do we distinguish, define and uncover it? What elements of melody, harmony, rhythm, orchestration and production characterise it as 'sci-fi'? Specific and iconic scenes are analysed in terms of how their musical accompaniment contextualises the film's narrative. This chapter also addresses and analyses one of the most evocative and successful film franchises in the history of cinema by examining the scores for various *Star Trek* projects in detail. By looking at music from the original TV show and a wide selection from the resultant films we closely analyse the writing styles of Alexander Courage, Jerry Goldsmith, James Horner and Michael Giancchino, looking in detail at harmony, melody, chord voicing and orchestration.

Films and music discussed are: *Alien* (Jerry Goldsmith / Howard Hanson) *Aliens* (James Horner) *Apollo 13* (James Horner) *Independence Day,* (David Arnold) *Star Trek* (Alexander Courage, Jerry Goldsmith, James Horner and Michael Giacchano) *Mission to Mars* (Ennio Morricone)

06) **JURASSIC PARK AND E.T. - THE MELODY, HARMONY, ORCHESTRATION AND ARTISTRY OF JOHN WILLIAMS** (10,261 words)

In this chapter the scores to Jurassic Park and E.T are analysed. Melody, harmony and orchestration are, again, key areas of study. The chapter scrutinizes in detail the melodic patterns in terms of contours, intervals and how they communicate the emotion of the films, the stories and their narrative structure. The chapter also looks in detail at orchestration, essentially by reverse-engineering the different elements and layers, examining in detail how these different areas combine and interlock. Voicing and instrumentation are studied closely. The chapter looks in depth at the way orchestrators interpret the music of John Williams. Many issues are addressed, such as poly-tonality, cluster voicing, instrumental divisions.

Music analysed: *Jurassic Park* and *E.T.* (John Williams)

07) **SKEWED PERSPECTIVES** (10,732 words)

Skewed Perspectives analyses music which offers listeners a subtly different perspective by using unusual harmonies which succeed in creating a distorted context. Sometimes this is via a specific use of orchestration or voicing or it could be because the kinds of harmonies presented lay slightly outside what we are used to hearing. We will examine how music reacts with the image, the story and the wider narrative and what specific and unique characteristics are created. This does not mean the music always sounds 'weird' – just that the result gives us a distorted, partial, broken or in some way slanted perspective as a result of deliberate and careful manipulation of harmony, melody or texture.

Music analysed includes:

Tinker Tailor Soldier Spy (Alberto Iglasia) *The Bourne Ultimatum* (John Powell) *The Game & Seven* (Howard Shore) *The Village & Sixth Sense* (James Newton Howard) *Hannibal* (Hans Zimmer) *Psycho, Cape Fear & Vertigo* (Bernard Herrmann) *The Godfather* (Nino Rota) *Zodiac* (Howard Shore) *Deadly Pursuit* (John Scott) *Avatar* (James Horner) *Inception* (Hans Zimmer) *The Ghost* (Alexandre Desplat)

08. THE INTRICACY, SOPHISTICATION AND COMPLEXITY OF FILM MUSIC (21,096 words)

In this chapter we analyse and examine music which connects with the film via delicate brush strokes of harmony, instrumentation and texture and which interacts with film drama on a deep level. In some cases we examine introspective and contemplative music which succeeds in exposing a deeper meaning in the film and provoking a deeper reaction in the listener / viewer. This doesn't always mean the music is slow or light-touch or that it is always complex; just that its communicative power is sometimes subtle and indirect; understated, refined and/or cumulative.

Music analysed includes:

Gattaca (Michael Nyman) *Sneakers* (James Horner) *Pacific Heights* (Hans Zimmer)
Cast Away (Alan Silvestri) *Contact* (Alan Silvestri) *End of the Affair* (Michael Nyman) *Local Hero* (Mark Knoplfer) *The King's Speech* (Alexandre Desplat) *Revolutionary Road* (Thomas Newman) *Le Grand Bleu* (Eric Serra) *Touching the Void* (Alex Heffes) *Love Actually* (Craig Armstrong) *The Beach* (Moby) *Rogue* (Francis Tetaz) *Chariots of Fire* (Vangelis) *The Truman Show* (Philip Glass/Burkhard Dalowitz) *United 93* (John Powell) *Tron Legacy* (Guy-Manuel de Homem-Christo & Thomas Bangalter - aka Daft Punk) *28 Days Later* ('In Paradisum' – Gabriel Faure) *JFK* (John Williams) *Superman* (John Williams) *Raiders of the Lost Ark* (John Williams) *Star Wars* (John Williams)

09) **EXCITEMENT AND THE GRAND GESTURE** (7,866)

This chapter analyses music which communicates its meaning dramatically and emphatically. Rather than music that transmits gradually, subtly, little by little in a 'slow release' way, the chapter will examine and evaluate the success of music which possesses a sense of immediate urgency and obvious drama. This needn't and doesn't mean that all the music analysed is necessarily 'loud' or 'bombastic'; just that it communicates in dramatic fashion.

Film Music analysed includes: *Pearl Harbour* (Hans Zimmer) *Batman Returns* (Danny Elfman) *Inception* (Hans Zimmer) *Rocky* (Bill Conti) *The Long Good Friday* (Francis Monkman) *Rocky* (Bill Conti) *Wall Street* (Stewart Copeland) *Mission Impossible* (Lalo Shiffrin) *The Bourne Identity* (John Powell) *Superman* (John Williams) *Love Actually* (Craig Armstrong) *Universal Film Opening* (Jerry Goldsmith) *The Matrix* (Don Davis) *20th Century Fox Fanfare* (Alfred Newman)

"Any working composer or painter or sculptor will tell you that inspiration comes at the eighth hour of labour rather than as a bolt out of the blue. We have to get our vanities and our preconceptions out of the way and do the work in the time allotted."

John Williams

INTRODUCTION TO VOLUME II

How does film music work?

In order to understand how film music 'works' we must first ask ourselves how it makes us 'feel'. Then we must ask how and why it makes us feel this way. What elements (sound, texture, production, melody, harmony, instrumentation) are so compelling that they affect our emotion and inform our perception and judgment. Music is extremely important to film; its importance goes beyond mere accompaniment. How we understand and interpret films frequently depends at least partly on how the music 'frames' them; how the music delivers the film to us.

In order to understand how film music is written - often under great pressure - we need to draw conclusions and deductions about how certain combinations of musical elements work. For example, specific harmonies can create predictable emotional reactions in listeners. Despite the fact that each person is an individual and listens to music in subtly different ways, music manages to provoke a more general collective reaction amongst its listeners. Put simply, a specific type of chord, guided by our reaction to the sound it creates and because of the consistency and manner of its use in music, causes us to remember it; when we remember it or recall it, we recall the feeling it created within us. This is how we listen to all music but is particularly noticeable in film music because the mixture of music and image, or music and narrative, can make the music more memorable. We remember the distinctive 'James Bond' chord not just because of the distinct harmonies but because of a powerful contextual and visual memory we have of the film or the character. Film composers know these things and they exploit and italicise the relationship we have to music.

How is music created?

The creation of music is rarely the random, spontaneous romanticized event people imagine it to be. People are beguiled and seduced into the presumption that music is always the product of personal artistic endeavor. But words like 'inspiration' and 'art' and 'genius' are simply words society gives to try and explain something which seems beyond understanding or categorisation. Whether something is 'art' or 'genius' is a personal opinion with infinite variables. There is no definitive answer as to whether something is art or genius because we have no benchmark. This wouldn't be so bad were it not for the fact that the history of music is riddled with words which essentially have no proper meaning. Too many of music history and composition books are based on unbridled reverence. We are taught to revere the great composers as if everything ever composed was a work of lone genius, beyond our comprehension. What we are also taught is that 'great music' is something that *other* people create, not us. We are taught the *Disney* version of music history, where we are encouraged and cajoled into idolising and revering 'great composers' and interpreting their work as a fantastic aberration, something never to be repeated. This is how Mozart, Beethoven and the rest are sold to us. This might be exciting but it can also be damaging because it conditions us to think that 'great' music is simply something done by other people, not us.

When composers write music they're trying to think of an original and entertaining way of telling a story through music. People are generally able to interpret, rationalise and understand how literal ideas are formulated in books. They understand that writers arrange ideas and words in specific ways to create new context. People are also relatively able to understand visual 'art'; they have a grasp of what something looks like and what the artist has done and they understand, to a degree, the context. Unfortunately the same cannot be said of music. People listening to music are affected emotionally, biologically and physically by something that (in terms of harmony, orchestration and production at least) they have little understanding of in terms of how it is made. Books communicate using a universal language we all understand. For this reason although we respect and admire authors we do not always cherish them with the same blind unconditional reverence we use for successful or 'great' composers. This is because we have an understanding of the process.

Music does not 'transmit' along the usual corridors of emotional communication that informs and enlightens us. With books we understand how and why we've been affected; we can see the words and hear the sounds they produce. There are two frames of reference. With visual art, possibly to a lesser degree, we still understand. With music few people possess the ability to understand how and why they are affected because they lack the ability to visualise and thus rationalise how and why music ends up sounding the way it does.

Sometimes what people don't understand they either fear, resent or revere. Luckily people enjoy music and therefore they have invented a whole system of beliefs to explain how and why a very small number of people can create something the rest find amazing. But any honest composer will tell you straight; whilst writing music is not easy and requires the kind of imagination, creativity and mental agility which few are capable of, it is, nevertheless, not the baffling process people imagine it to be. What 'great' composers do is listen to music, distil its traditions, traits, tensions and characteristics. And then they subtly and slightly rearrange the virtually limitless stylistic, textural, rhythmic and harmonic components and possibilities music offers. They look at the stylistics, traditions, practices and evolution of music and try and figure out where they fit and what they can offer.

How we listen

People listen to music in consistent, uniform and predictable ways. We listen in a similar way to how we observe, perceive and rationalise the world we see when we open our eyes. Our power to interpret images is based on our ability to categorise and classify what we see and experience; we do not literally look at everything anew every day because if we did it would take all day and we'd be living in a world of chaos. Because we classify and categorise, we don't have to double-check everything we see, every time we see it. Therefore much of what we see is based on what we *think* we see; what we presume we see, and of course most of the time we are right. This is why we are so affected by something visually new, or perhaps striking, such as a vast panoramic scene we haven't witnessed before. This is also why 'optical illusions' affect us so much; we're shocked and wrong-footed by something which stubbornly refuses to be instantly categorised and classified. When we listen to music we also hear and listen with prejudice; in an instant we rationalise based on how this new aural experience compares with the kinds of things we've already heard and experienced, accessing a vast database of partial aural memories.

We listen in context of the past; what we *expected* or how the new piece compares to what we have experienced before. This is not entirely a product of our kidult or adult experiences; sometimes our predispositions go back even further: cognitive tests proved beyond doubt that three month-old babies react better to consonant harmony than dissonant harmony. Perhaps some of our predispositions, tendencies and prejudices are part of us before we're even consciously aware of it.

I say all this because the same issues are in play when we compose. We write in similar ways because inherently, subconsciously or consciously, we play by the same basic rules of musical structure and architecture. We observe the tradition, style and substance of music and we distil it and use it as a platform on which to build something which sounds sufficiently different or new. Add to this an extra restriction placed on composers: the fact that the vast majority of all music composed is *performed* as it is composed (that is to say few composers conceptualise independent of using an instrument). As soon as we sit down at a piano keyboard we conform; we play by *its* rules. It is impossible to separate the chords we play and the colours we find with the distinct physical characteristics of the instrument.

So, if we still stubbornly stick to the absurd idea that composing music is purely and only about random, spontaneous unbridled bursts of lone genius, created from absolutely nothing and un-influenced by the world outside the composer's own mind, we are missing the point of how we listen to, distil and rationalise music and how some of us then go on to compose music based on these influences. There is 'sameness' to much of the music we experience, despite its apparent depth and variation. This is also the reason why certain chords, harmonies, melodic shapes and textural scenarios cause similar reactions in most people. In order to be immune from this a listener would have to spend their entire lives never experiencing music.

Music is just as much a part of our life as words are, and just as we are influenced in similar ways by a specific combination of words, so we are influenced by a specific combination of harmonies. The harmonic influences might be less obvious but they are there nonetheless. Because of our inability to understand music in the kind of comprehensive and detailed way we understand the written or spoken word, the harmonic influences which affect us and guide us are not *as* specific or literal as words or pictures; they are a little more general in their application but no less effective. In fact one might even say that the inherent beauty of music and its ability to move people is at least partly down to the fact that people are affected by something they don't fully understand, but gain similar experiences from.

Music and the inability of the law to understand it

The law may state that for authors and composers there *is* such a thing as 'an original work' but in reality in most cases the concept is absurd. The law exists to protect what it sees as a wholly original creation but this is nothing more than a crude, knee-jerk method of recompensing creative artists. The trouble with the concept of an original work is that it informs legislation and feeds the myth that one person can be solely responsible for an entire book or an entire symphony or an entire song. Because of the vast riches enjoyed by the relatively few who 'create' for a living and because of people's inability to understand the process of composing, we are left with the presumption of personal greatness and unfathomable genius.

Music is there to be written and one of the most wonderful and consistent things about the film music industry is the humility of its composers. Think not of personal greatness; think instead of using the almost limitless possibilities that music offers us in order to craft something which benefits the movie. Think about what unique element or thought or idea you will add to music to give it a specific personality - one people will remember long after the film has finished. The successful film score writers have one fundamental thing in common: they have all brought something new to the genre. People remember John Williams for his rousing thematic material but what really distinguishes him from the pack is the stuff that goes relatively unnoticed; his almost unparalleled ability to create subtle types of harmonic tension, colour and beauty through harmony. He has distilled existing stylistic influences and created music which has furthered the art-form, not just perpetuated it. Hans Zimmer's use of music and production, together with the insatiable sense of colour and romance within his luscious harmonies and deep, dense orchestration has distinguished him such that he has an identifiable and much-copied style. His use of real instrumentation, sampled sounds and brilliant production technique, together with his great sense of architecture, have defined a fresh approach to scoring films. Similarly the sheer breadth and magnitude of colour created by James Horner's music and his eclectic use of harmony and instrumentation has created something people recognise. His rousing themes for *Star Trek II*, his distinctly jazz-influenced score to *Sneakers* and the subtle harmonic abstractions in *A Beautiful Mind* make Horner one of the most eclectic and Chameleon-like composers in the history of film music.

In order for listeners to enjoy music, inevitably there must be an element of tradition, of something we 'recognise', within it. Any music which is utterly original and does not possess *any* of the satisfying structural, textural or harmonic signposts present in 'normal' music can be open to hostile interpretation. But, ironically, in order to galvanise us, interest us and make us remember, there normally has to be splashes of originality, of newness in music, which titillates the listener and engages them. But 'newness' is often not so much something wholly bold and original, rather than simply a different way of contextualising the harmonies and structures music offers us. To say something differently, to offer a fresh perspective is one of the most poignant things a composer can do. Being 'different' need not always mean 'jumping off the deep end'. If, as a composer, you can manage to embrace tradition sufficiently enough to create warmth and familiarity and avoid being exiled into the world of total abstraction but *also* create a style or approach which makes you recognisable, distinct and slightly original, you have mastered the art of composing. Most successful and well-known film composers have managed this to varying degrees.

Do not ignore the context

One thing that makes film music work is the context in which it is heard. The music and the film are part of each other. They are contextually inseparable. The success of film music is ultimately a product of its 'function'. If film goers 'like' a certain piece of film music it is not usually the raw music they respond to, but the 'job' it does, the function it fulfils in the film. We respond to the feeling the music creates within us, but this feeling is because of the consummation between music and film; between something we hear and something we see. In many ways with film music we 'watch' it just as much as listen to it, just as we listen to the film as well as watching it.

All music is 'functional' to varying degrees. Very little music is written for no reason whatsoever. Music is hardly ever written in a vacuum. There is normally a reason, a motive, a purpose, an intention. Film music's purpose is not just to be heard as music, but to be listened to as part of a bigger construct – the film. Unlike 'normal' music, film music is not driven by ego or a desire to 'musically entertain'. Film music is driven by literary and dramatic considerations. This is not music for music's sake; what's important is the 'function' of the music. When writing to picture, always ask yourself 'why am I writing it like this, what does it do, what does it bring to the film that wasn't there already, what is its function?'. If you're simply duplicating existing emotion, which is what most film music did in the early days, ask yourself, are you overcooking the scene. Dramatic action sequences may need overcooking with duplicative music but more subtle dramatic moments might be in need of lighter brushstrokes; something which subtly counters the drama, says the same thing but in a different way or simply makes us more emotionally receptive to the story. Try and see the difference between how music sounds and the function it provides; the job it does.

Can you do it by Friday?

The pressure to turn it around in an implausibly short length of time creates the kind of panic and stress which can often create great music. The pitifully short amount of time given to most film composers and the stress this creates is a permanent factor of the industry. It is the stuff of legend. The need to write quickly can lead to the kind of commodification and formula which many criticise but which has given film music an identity which has made it more popular than ever. The sheer pressure, tension and anxiety created when a composer is working to a tight deadline can often be the catalyst that induces the mind to create great music.

Chapter 1

DOCUMENTARIES AND COMMERCIALS

This chapter will deal with the area of music written for television and film documentaries and will also address some elements of writing for commercials.

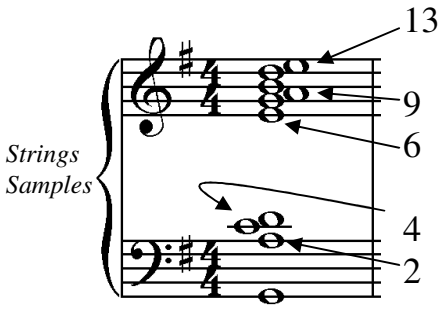
Music analysed includes: *An Inconvenient Truth* (Michael Brook) *Taxi to the Dar Side* (Ivor Guest and Robert Logan) *Fahrenheit 911* (Jeff Gibbs) *Visit Scotland TV ad* (Paul Mounsey) *Audi A5 'rhythm of lines' ad* (Dustin O'Halloran) *Ford Mondeo 'balloons' ad* (Michael Andrews) *The Bridge* (Alex Heffes) *Blue Planet* (George Fenton) *Planet Earth* (George Fenton) *The Corporation* (Leonard J. Paul) *Life in the Undergrowth* (David Poore & Ben Salisbury) *John Pilger Documentary - Paying the Price: Killing the Children of Iraq* (Nick Russell-Pavier) *World in Action* (Keith Mansfield/Shawn Philips) *Panorama* (Francis Lai) *Life* (George Fenton) *Horizon* sonic logo (David Lowe) *The Oil Factor* (Fritz Heede) *The Andy Marr Show* (Debbie Wiseman)

As discussed in volume one of 'How Film & TV Music Communicate' the need for, and success of, music in film is seemingly one of the great anomalies; the main goal of most films is to be believed. The essential ingredient of most films is plausibility. We must believe it; we must share in its deception. And yet there is no musical accompaniment to the living of our own lives. So why is music needed in order to authenticate lives and events portrayed in film? The answer of course is that when we live our own lives we have an enormous emotional bond. *We're there*. But when we watch a retelling of events we weren't part of, we lack the emotional involvement and bond; this is a void music fills. Therefore music is not always needed to dramatize or italicize, but to provide an emotional link or bond between audience and film. With this in mind, it's important to acknowledge that documentaries are *truth,* not fiction. There are major differences between scoring fact and fiction. Some of the most engaging films ever made are documentary. They are, perhaps more than fiction, a labour of love. Someone is telling us something which is true. Somebody somewhere is making a point.

AN INCONVENIENT TRUTH *Michael Brook*

Let us turn first to the landmark documentary *An Inconvenient Truth,* a 2006 documentary film directed by Davis Guggenheim about former United States Vice President Al Gore's campaign against global warming. The documentary was a critical and commercial success, winning Academy Awards for Best Documentary Feature, earning $50 million at the box office and becoming the fifth-highest-grossing documentary film to date in the United States. The documentary benefitted from interest in global warming created by the film *The Day After Tomorrow. An Inconvenient Truth* has been credited for raising international public awareness of climate change. The music for the film is by guitarist Michael Brook. Let's look first at one single chord. The chord is from a track called 'Science' which plays at the beginning of the movie.

Fig.1 *Audio, 01.00 'Science' – Film, 00.01.50*



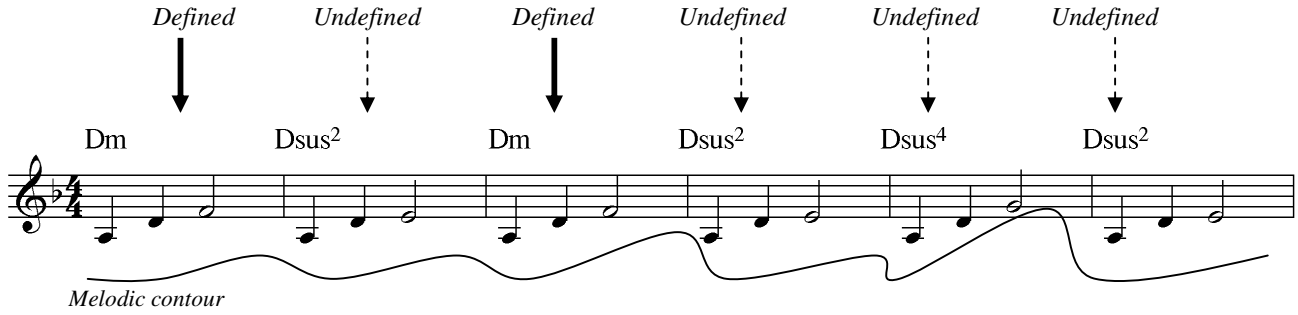
The chord is open and transparent; it does not come harmonically zipped-up, complete with definite unambiguous intervals. Because of the interpretative nature of the chord, the way it 'sounds' to us can seem to shift and evolve as we listen to it. The intervals aren't what we're used so our normal harmonic signposts are gone.

Because the chord sticks around for long enough for us to 'get into it' and because of the lack of any distracting melody and the use of sus / extension notes, the chord has a kind of mesmerising and hypnotic quality, stemming from its lack of definite harmonic character. Unlike a 'normal' chord whose harmonic character is definite, this chord has a 2^{nd} / 9^{th} stated in two octaves (the A) plus the 6^{th} / 13^{th} (E) stated in two octaves. It also has a sus4 drifting in and out of the mix. The chord therefore has two definite notes from the G chord (root and 5^{th}) but five extension note (albeit two of them octave doubles).

The disproportionate use of extensions has a similar effect to the visual blurredness sometimes found impressionist paintings, whereby the picture comes in and out of focus. The normal clarity of harmony is replaced with a vagueness caused by an overuse of extensions. This means the listener is not as passive as might normally be the case. As the held chord's characteristics unfold over time its interpretative qualities evolve too. What seems at 'first listen' to be monotonous, tedious and droning, is in fact allowing the listener to be more involved in how the music is heard than is normally the case. Because there are no moving parts the meaning the stacked harmonies create can be fleeting and change and evolve in the listener's imagination. Many children play a game whereby they repeatedly state a word until, after some time the word, robbed of its customary conversational context, starts to sound more than a little abstract. If we hold a chord such as the one in fig.1 for a long time the effect can be similar. The lack of moving parts in the chord makes it ideal to accompany dialogue but retain its effectiveness. This chord really engages the listener and viewer and aids the narrative of the film significantly.

The next excerpt comes during the section of the film in which Al Gore describes his family's tobacco farm and the death of a relative through cancer. It is a particularly poignant part of the film. As in the opening chord, this line provides a selection of undefined intervals which lack the definition offered in major or minor chords. The excerpt in fig.2 is performed as a solo line on acoustic guitar, unaccompanied. The line doesn't need to be accompanied because when we listen we mentally fill in the harmonic context that the notes suggest. For example the first bar, featuring A, D and F, implies a Dm chord, which the listener 'hears' by virtue of the horizontal harmony created by the guitar.

Fig.2 *Audio, 00.43 'Tobacco'*

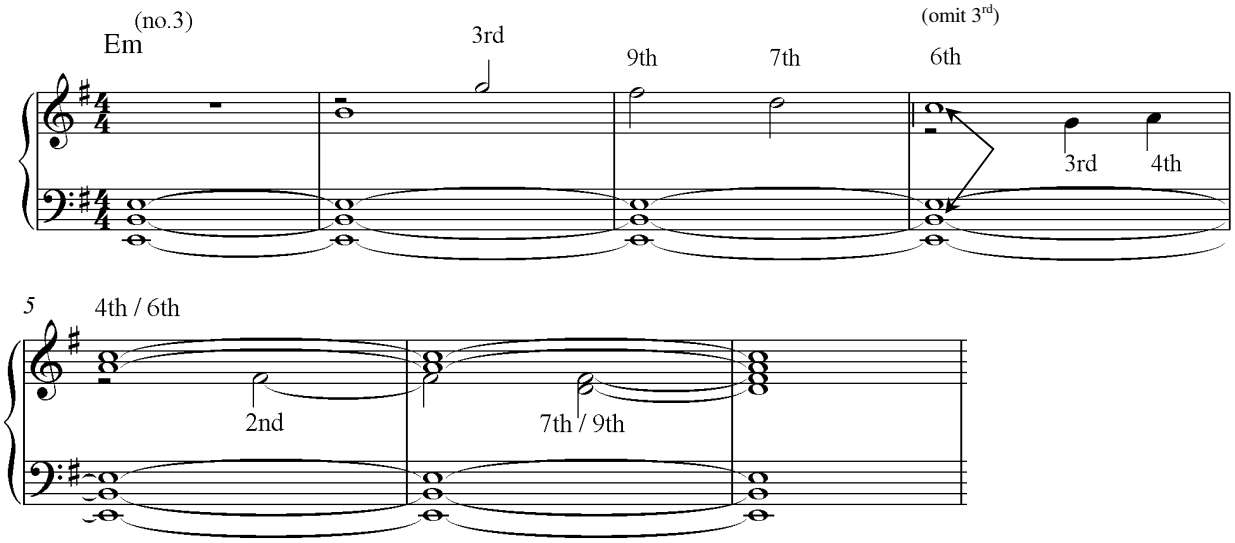


The reason the chord symbols are placed above each bar even though no accompaniment is performed, is because these are the chords the notes imply. Bar two features the notes A, D and E. Although this could be rationalised aurally and theoretically as an Asus4, especially as it has an A in what appears to be the root, we tend to rationalise and name the chord 'phonically' according to how it sounds in context with what preceded it. The first bar implies the harmonic context of a Dm inversion and the second bar sounds like it implies a Dsus2/A. Toward the end of the excerpt the non-defined chords become more frequent. The use of non-defined chords deprives listeners of absolute harmonies and can distort listeners' expectations and presumptions. As with the initial chord we analysed in fig.1 this piece works effectively under dialogue.

TAXI TO THE DARK SIDE *Ivor Guest & Robert Logan*

We turn turn now to the landmark documentary *Taxi to the Dark Side*, a 2007 film directed by Alex Gibney which won an Academy Award for Best Documentary Feature. *Taxi to the Dark Side* examines, amongst other issues, the CIA's systematic and illegal use of torture. Some of the scenes in the film are graphic, horrific and make for difficult but necessary viewing. Leaving emotion aside, from a pragmatic perspective how does a composer score such images? When the pictures are so graphic, distressing and *factual,* what can music offer? This is not fiction and is not re-enacted. The images are real. Does music not run the risk of turning documentary into drama and then into melodrama? The following excerpt comes when some of the most shocking images in the film are shown. Interspersed with dialogue, the music heightens our emotional responses not by italicizing the pictures but by offering music which 'comments but does not judge'. It offers a neutral, ambient bed of sound which states occasional odd and disorientating intervals.

Fig.3 *Film - 00.10.15*



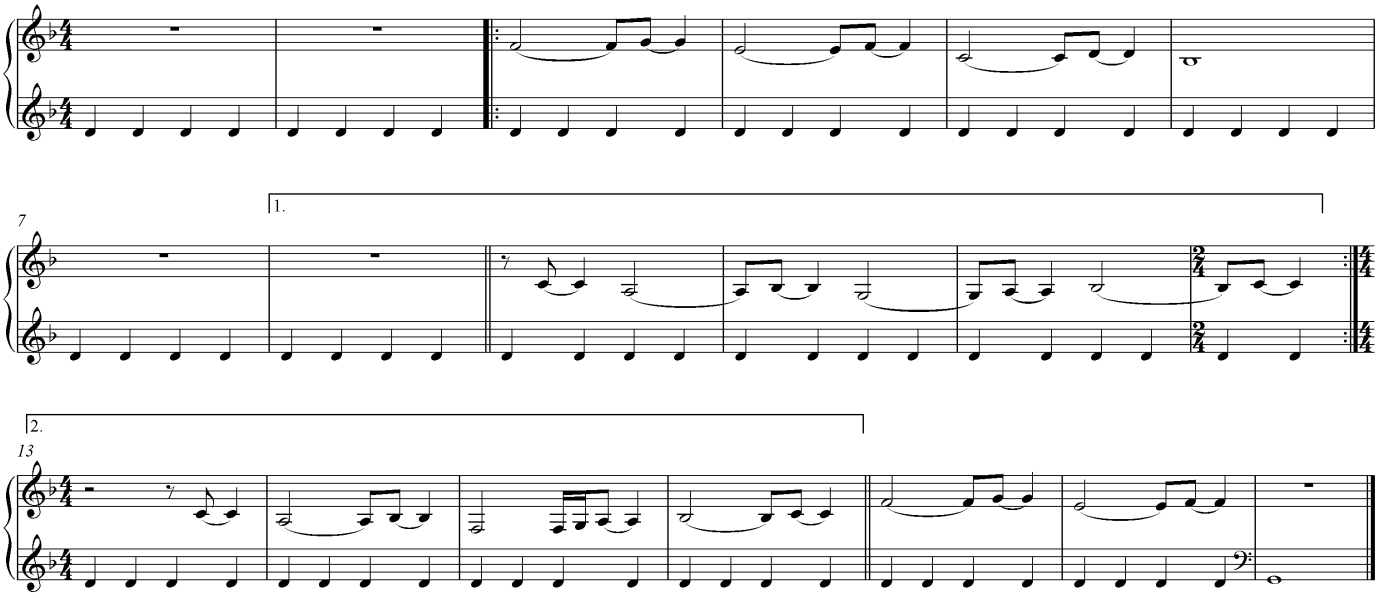
(omit 3rd)

The chord in the second half of bar 5 is E2/4/6. The chords used and the evolving and melodic line offer an unclear, indistinct, indistinguishable and blurred musical backdrop. There is one particularly uncomfortable clash (between the 5th on the lower stave and the min6th on the top stave). This is not as harsh as it could be, thanks to the ambient low-fi sound textures which tend to make the notes blur into each other; musically, anything emphatic and obvious might detract from the film in a way which questions its integrity

FAHRENHEIT 911 *Jeff Gibbs*

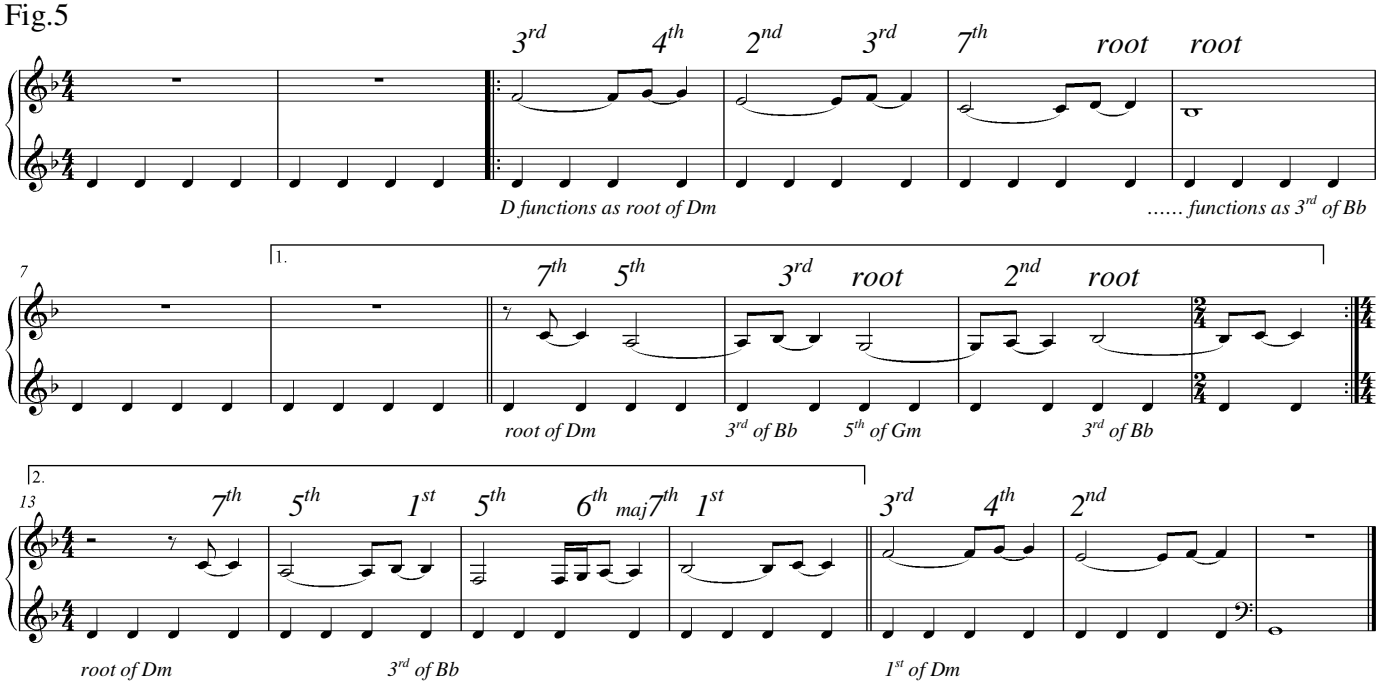
Turning to Michael Moore's *Fahrenheit 9/11*, the music is by composer Jeff Gibbs, who has composed music for Moore's other film documentaries. The following excerpt plays over the opening titles as the pictures show the then American President George W Bush and Defence Secretary Donald Rumsfeld being prepared for a television interview. The relative ordinariness of the scenes is made wholly more symbolic and poignant obviously by virtue of the context in which we now view it but also because of a combination of effective cinematography and almost forensically emotional music. The sequence below is played on acoustic guitar.

Fig.4 *Film - 00.00.00*



If we ask ourselves which line is the melody the answer would be the top line, simply on the basis of the perceived physical movement. Whereas the bottom line stays exclusively on one note, the top line possesses direction and movement. But if we ignore the bottom line and simply play the top line we realise it has no obvious implied horizontal harmonic context; it is actually the seemingly ineffectual monotonous line underneath which offers an evolving harmonic context because although it doesn't move physically, it changes its intervallic context. This calls into question which line functions as the 'melody' and which line provides the real and crucial harmonic perspective which 'colours' the piece. It could be argued that the composer has reversed the roles and made the repetitive D note the one that actually moves to and from intervals which are more identifiable.

Fig.5



These are the reasons the piece has a distinctive mesmerizing quality. Because of the simple two-part harmony it is sometimes quite hard to rationalise what intervals are being stated. Bar three is easy because we have the root and minor 3rd as is bar six where we have the major 3rd on the bottom and the root on the top. Other less obvious relationships tend to float in and out of harmonic focus. Above they are listed, but the few which are not perhaps obvious are reliant on 'bleeding' harmonic context from the previous bar(s).

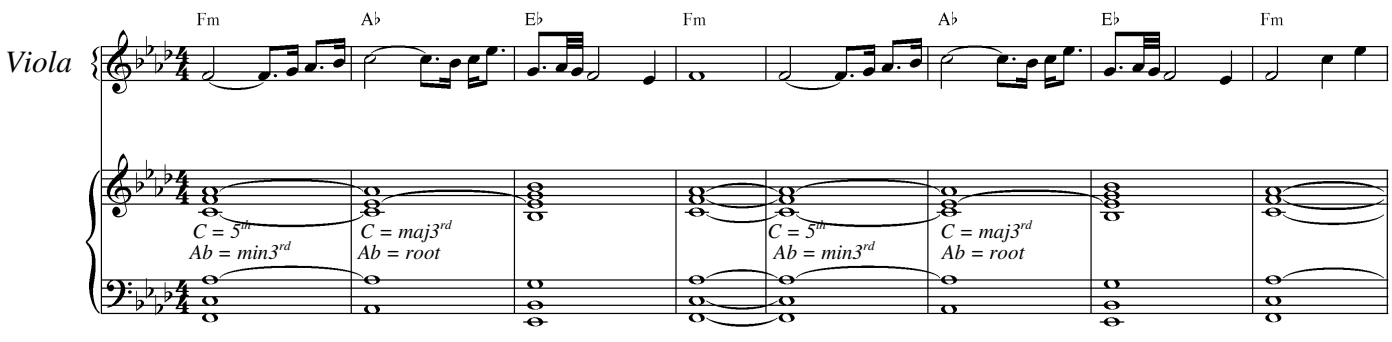
VISIT SCOTLAND (ADVERT) *Paul Mounsey*

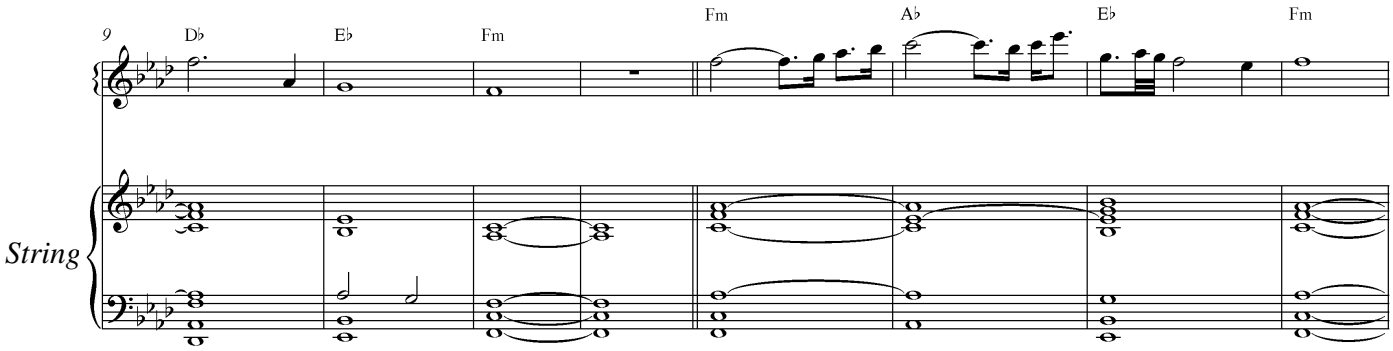
Composer Paul Mounsey wrote one of the most iconic pieces of music ever used in advertising. But like the Sigor Ros piece *Hopilola* (covered in chapter 6 of volume 1 of 'How Film & TV Music Communicates') it too wasn't initially written for television or film. We can nevertheless examine its filmic qualities.
Because it was used for advertising and highlighting the beauty of Scotland as a tourist destination, the music was used in a documentary context, e.g. the context was factual. The track is called 'North', and it remains one of the most effective musical branding exercises in tourist advertising history. It has been described variously as 'mesmerizing', 'hypnotic' 'enchanting' 'effortless' to name only a few accolades. As far as we're concerned, the eternal question is *how?* What aspect of a piece of music could be mesmerising? Instrumentation and production can achieve a lot and indeed, as composer Anne Dudley said, "the sound is what stays with you". People often cite the shower scene from the film *Psycho* as an example of the triumph of the sound. Theatre-goers reportedly shrieked in horror at the screeching strings. But of course the sound is nothing without the music. Sound is simply random sonic energy unless it has somewhere to go. People have to craft and sculpture it into something people want to listen to.

When we hear notes we think we hear only one context; only one reality. What we really hear are the physical notes and the intervals they represent in context of the collective harmony (the chord) they help create. Notes form a collective identity which we hear and respond to, but the reason we respond is because each of the notes has a specific place within the chord, to which we give a number, which we call the interval The way the intervals interweave, entwine and interconnect often defines the way a chord sounds. If you play an E and an F together you get a dissonance which is the result of the minor 2nd interval. The assumption is that the interval's name is simply a name given to describe the gap between the notes; but if you analyse properly it is the gap, the space, the bit you don't hear, which represents the defining context.

Music is never as simple as it seems. Almost limitless harmonic dynamics conspire to deliver sound crafted into music which moves us, emotionally. Several elements are highlighted in the excerpt below which help rationalise the success of this piece. On a surface level we have the minimal musical movement in the accompaniment string voicing; although the chord symbols (what the notes mean collectively) *move* the actual movement of the individual notes is minimal, which represents great voicing and arranging. The listener hears the feeling of the collective harmony moving at one rate whilst the individual notes which together constitute the chord move at more of a steady rate. This is because the individual note sounds and the intervals they represent move at different rates.

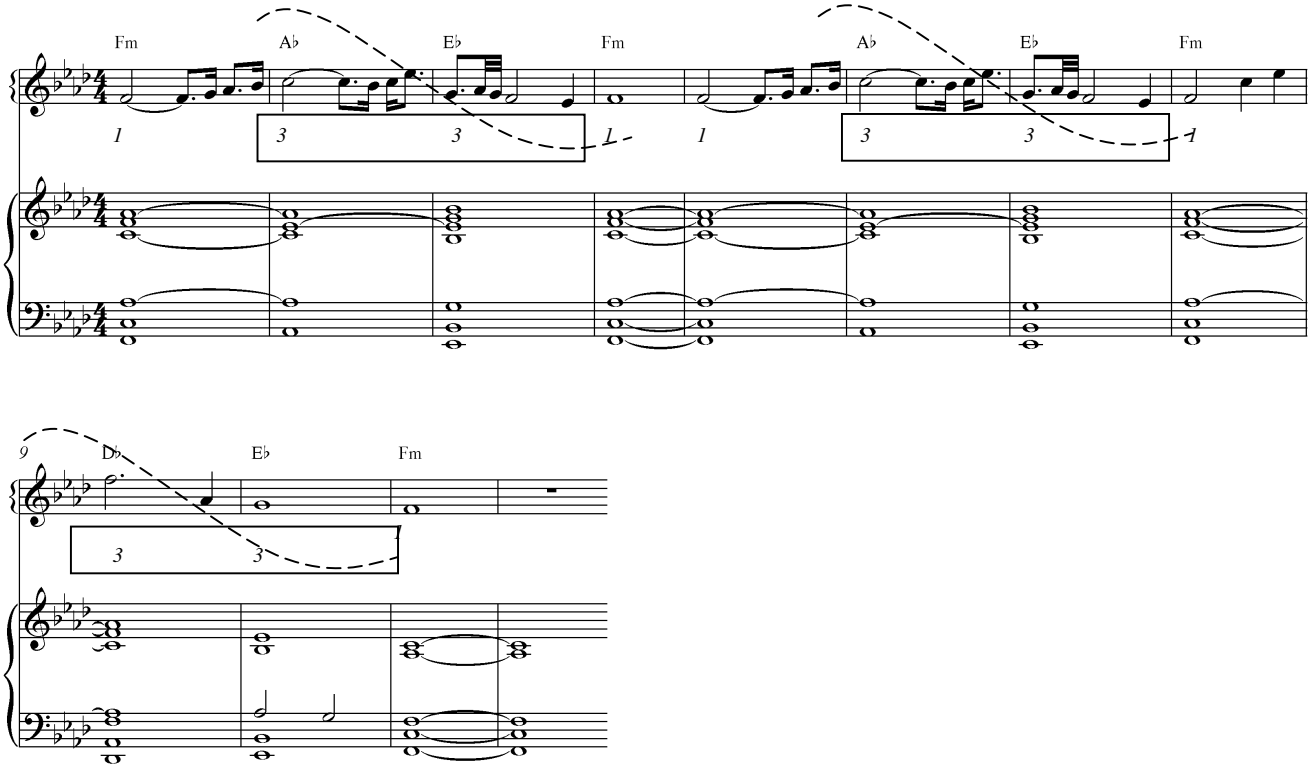
Fig.6 *Audio - 'North' 00.41 (from the 'Visit Scotland' adverts)*





Looking below at the same excerpt again, this time the relationship between the actual physical musical activity and the intervals of the *melody* is represented. Between bar two and three the musical line moves downward (perforated line) but the interval stated at the beginning of both bars (boxed) is a major 3rd – an enormously emotive and descriptive interval (as discussed in volume 1 at length). This manoeuvre happens three times.

Fig.7 *Audio - 'North' 00.41 (from the 'Visit Scotland' adverts)*



Looking below at the intervals at the start of each bar we can decipher and divide the emotions clearly; the major 3rd is an emotive, emotional descriptive interval (represented by ♡) whereas the interval which bookends the first two phrases is the all-powerful root, representing power and authority.

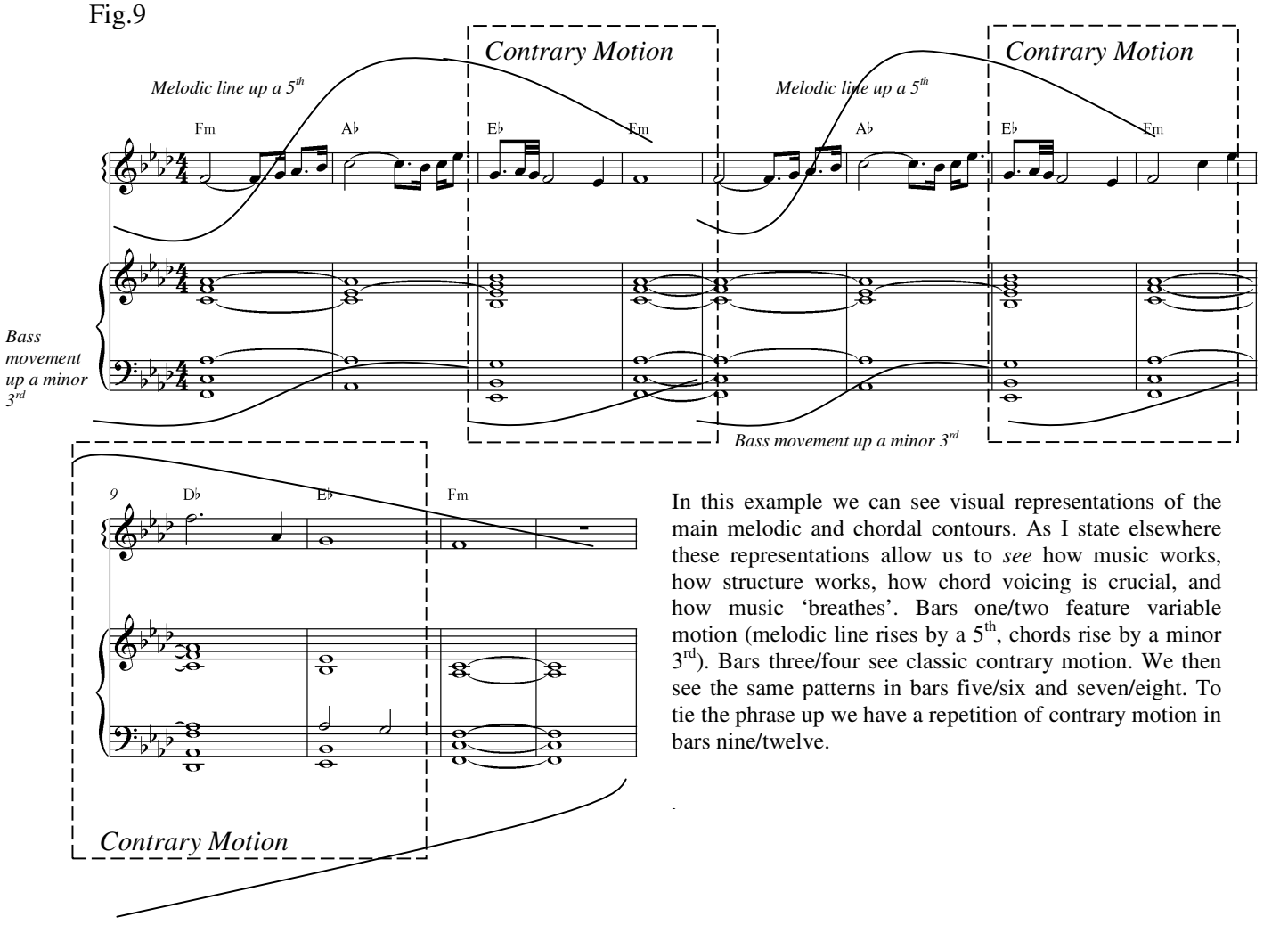
Fig.8

Bar	1	2	3	4	5	6	7	8	9	10	11	12
Note	F	C	G	F	F	C	G	F	F	G	F	
Interval	1	3	3	1	1	3	3	1	3	3	1	

The impact of the major 3rd interval in bars two/three and six/seven (the melodic movement from the C note to the G note) is crucial. The long major 3rd (the note of C) establishes its emotive and descriptive qualities which work well reacting to the initial root melody note in bar one. The link between the two successive 3rds (bar two/three and bars six/seven) creates a doubly warm feel because the major 3rd interval stays but the actual musical note changes; what we're really listening to is the warmth of the maj3rd. Finally, below, if we look at the piece one more time and analyse the chord movement in ratio to the melodic movement we can see contours emerge.

Audio - 'North' 00.41 (from the 'Visit Scotland' adverts)

Fig.9



In this example we can see visual representations of the main melodic and chordal contours. As I state elsewhere these representations allow us to *see* how music works, how structure works, how chord voicing is crucial, and how music 'breathes'. Bars one/two feature variable motion (melodic line rises by a 5th, chords rise by a minor 3rd). Bars three/four see classic contrary motion. We then see the same patterns in bars five/six and seven/eight. To tie the phrase up we have a repetition of contrary motion in bars nine/twelve.

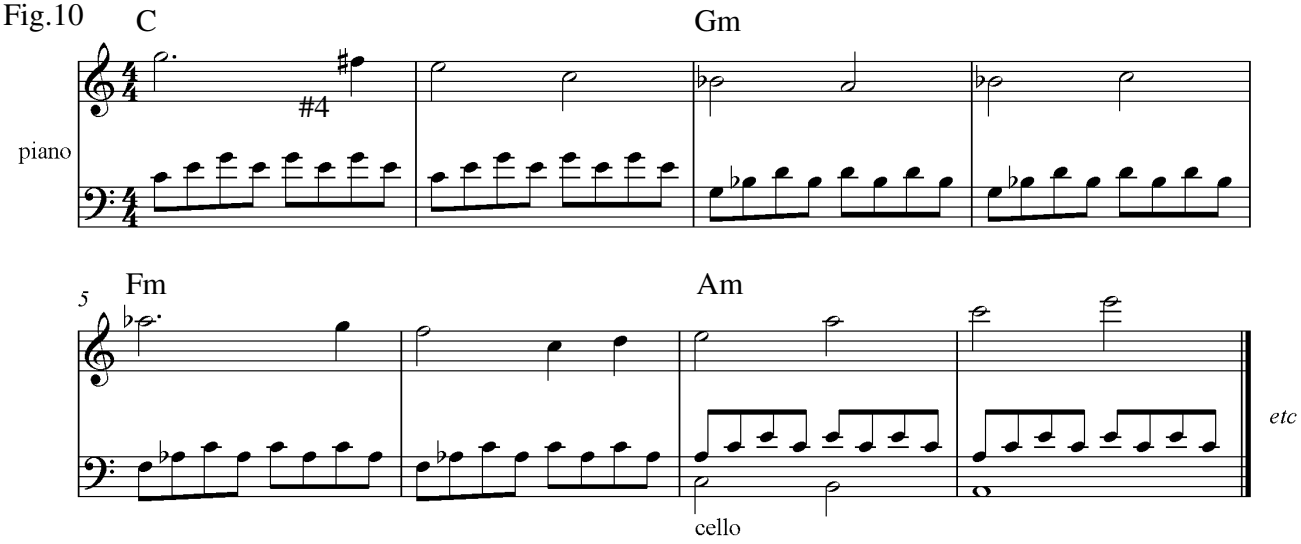
These observations are important because they help us understand the traditions, tolerances, customs, conventions and habits that *make music work*

AUDI A5 CAR ADVERT (RHYTHM OF LINES) *Dustin O'Halloran*

I would like to turn now to a series of car adverts, all of which feature inspiring and vivid music which, with powerful images and graphics, help shape both the advertising campaign and the way the car is perceived. Some of the iconic musical pieces used for commercials are often not initially composed specifically for the commercial we eventually see and hear but are written as library music and then chosen by ad agencies to accompany commercials. Nevertheless we can still analyse their qualities in terms of their suitability for the moving image because they were written to be used in a filmic context. The following piece, *Prelude*, by Dustin O'Halloran, is featured on a car commercial for the Audi A5; the ad is entitled 'rhythm of lines'. This kind of high concept, abstract car ad is typical of an entirely new approach to selling cars which involves simple but effective images and music. Of particularly interest here is the appropriation of film music conventions and harmonic devices and approaches.

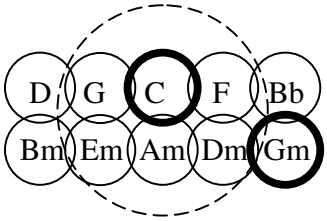
Most car ads nowadays have a dual purpose in that they double as cinema ads often trailing big budget films. The music for this is fairly minimal, featuring deliberately grainy, low-fi production, but is harmonically sophisticated. Such sophistication is certainly not achieved in the orchestration, instrumentation or performance, which is minimal, so it has to be contained within the harmony.

Fig.10



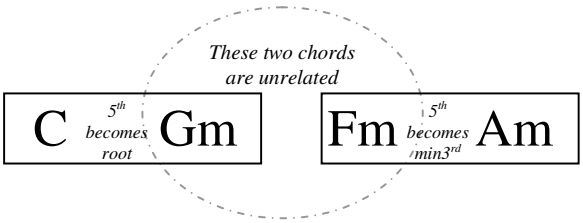
If we recall the 'chord bubbles' from a chapter entitled *Music Theory in Action* from Vol.1 of 'How Film & TV Music Communicates' we can see the C to Gm chords used represent what we called the 'Star Trek chord change'. This is one of the ways in which such a simply performed piece manages to appropriate a filmic context. The other filmic sci-fi context appropriated is the sharpened 4th. The combination of both of these harmonic devices lends the piece a sense of mystery and excitement.

Fig.11



If, below, we look at the chords in a larger context we can see other structural areas of interest. The first two chords relate well via common notes but the second and third chords have no common notes which in turn give the piece a slightly 'square' feel halfway through the phrase. Structure is everywhere; if you can't hear it you can definitely see it.

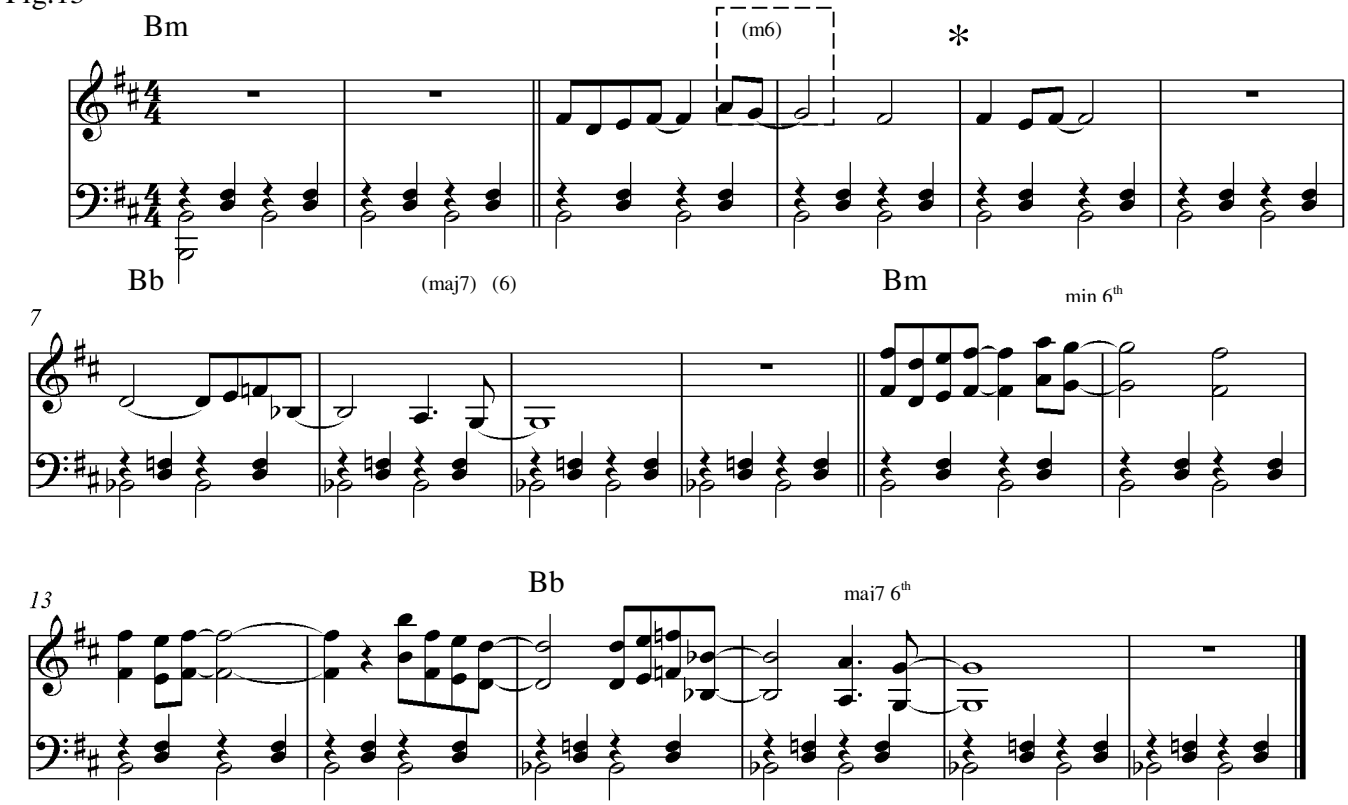
Fig.12



DONNIE DARKO EXCERPT (MONDEO 'BALLOONS' AD) *Michael Andrews*

The following piece, written by film score composer Michael Andrews for the film *Donnie Darko*, was used under licence in a Ford Mondeo car ad. The ad in question – the famous 'floating car' ad, was regarded by many as a breakthrough in television advertising. It was a radical departure from traditional automotive advertising in that the ad leaves the typical domain of the car commercial (the road) behind as the viewers' eyes are diverted upwards to see old cars being carried away by balloons. The unique and somewhat abstract premise of the ad is that in seeing the new Mondeo people are saying goodbye to their old cars by letting them float away. Once again we are trying to locate the filmic elements in the music which lend themselves so well to this dialogue-free car ad.

Fig.13

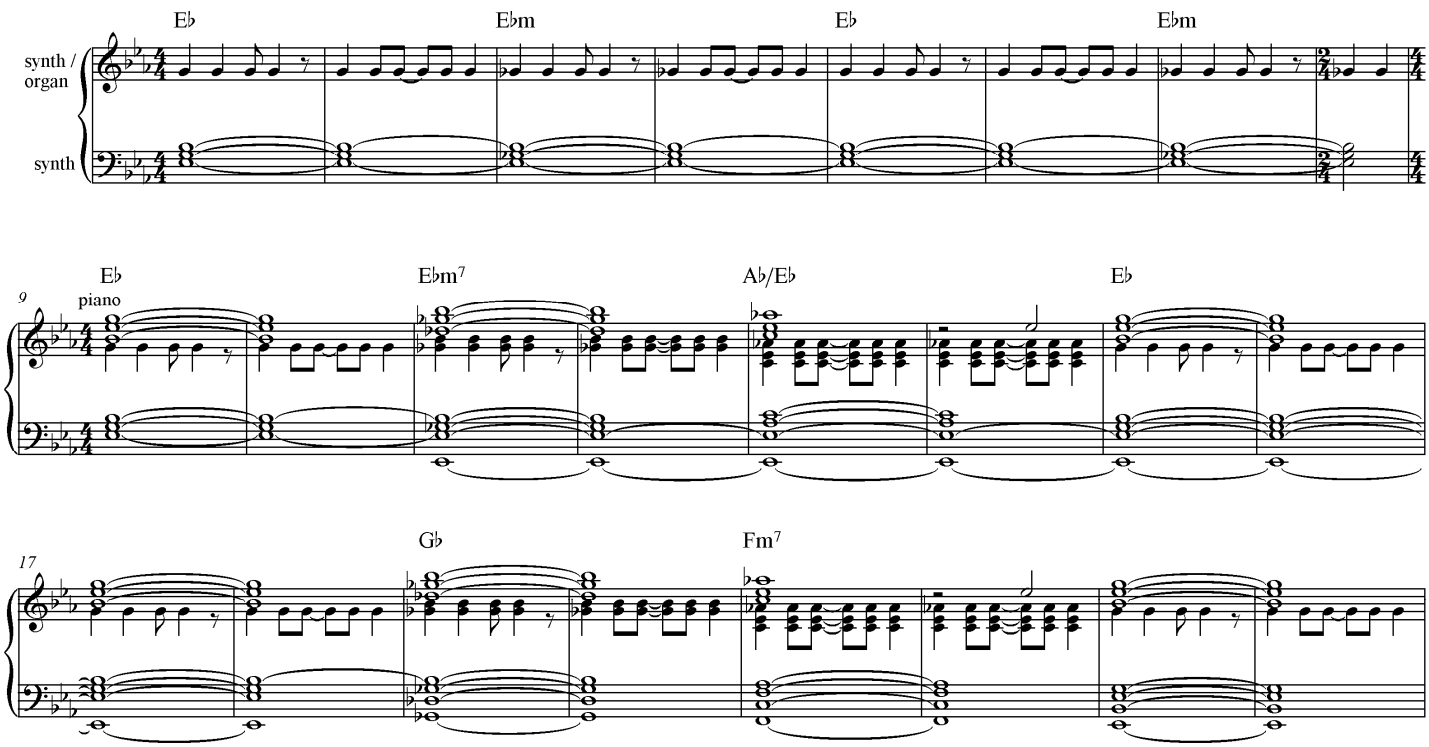


The simple left-hand piano performance lends the piece innocence; the move from Bm to Bb offers film music context in that it represents the chord shift made famous by composers such as James Newton Howard (Bm to Bb ensures the sound of the D note remains but its intervallic context changes from minor 3rd to major 3rd, offering unsettling intriguing characteristics). Because of the disproportionate emotive power the 3rd has we feel any alteration between major and minor 3rd, especially if the note that states those intervals remains static as a note. In addition we also have the issue of 'ghost notes' and harmonic innuendo: the F# at the end of bar five is still 'remembered' when the chord drops to the Bb in bar 7, creating a slight whiff of #5. The addition of the maj7 (A) and 6th (G) in bar eight creates warmth. The 'memory' of the B note in the middle of bar 14 leaks over into the Bb chord in bar fifteen, creating a slightly uncomfortable harmonic feeling. These seemingly innocuous, peripheral and even abstract observations are at the heart of how something so simply performed manages to transport specific unsettling emotions.

THE BRIDGE *Alex Heffes*

The Bridge is a challenging documentary that examines why people choose to end their lives at San Francisco's Golden Gate Bridge, an iconic American landmark and a monument to great engineering. The program examines important issues and shines a light on some taboo issues; since 1937, when the bridge opened, more than 1,300 people have jumped to their deaths from the bridge's walkway making it the world's leading suicide location. At least 18 people every year (more than one a month) decide to take their lives jumping from the bridge. The music was composed by Alex Heffes. His film scores include the BAFTA-winning *Touching the Void.* Debut director Eric Steele and his crew spent all of 2004 exploring this issue. Their cameras captured 23 of the 24 suicides that year. "I wanted to make a film about the human spirit in crisis that showed but did not judge", said Steele. I mention this because the composer has to follow a similar path by offering musical accompaniment and emotional commentary which states but does not wrongly or inappropriately italicise. The narrative strength of the film lies in a combination of heart-wrenching visual sequences and frank and personal interviews with families, friends and witnesses.

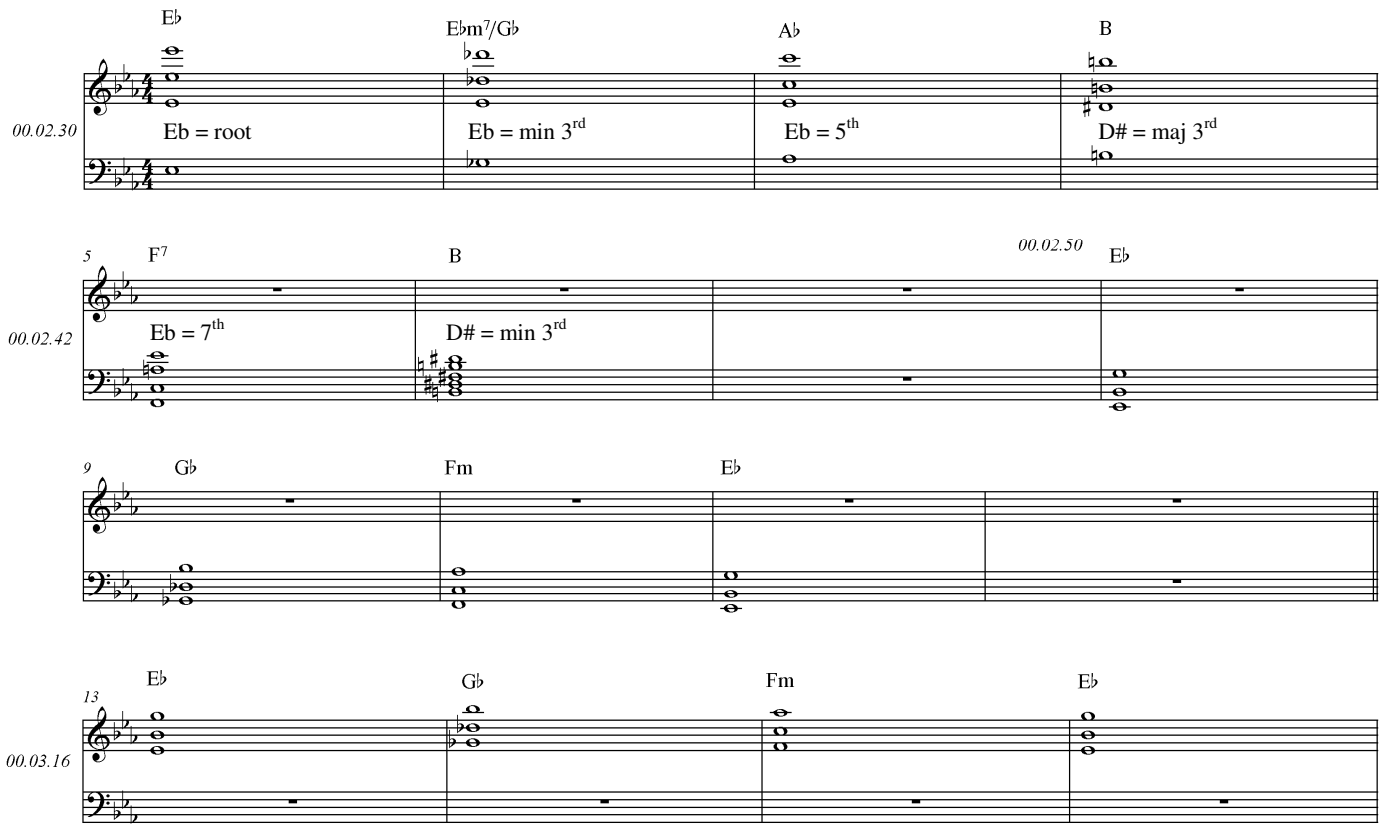
Fig.14 *Film - 00.00.53*



As we can see from the transcription in fig.14 which features the intro music, the use of pedal notes is pivotal in accentuating the drama (bars eleven-fourteen). In bar fourteen the chords become root-positioned and so essentially become 'definite'. What had been the Ebm7 (bars eleven-twelve) become the Gb (bars nineteen-twenty). The contrast of the initial pedal voicing and the eventual root voicing represents a gentle, slow and languid evolution of the harmonic sequence which is typical of effective music for TV drama / documentary. For documentaries with emotive or difficult subject matter, subtle movements often work the best.

Also we can't underestimate the simple power of the Eb to Ebm chord change. These two are outside each other's key centre so whenever we hear a chord sequence like this it is a little more surprising than major to *relative* minor would be. One has only to recall the opening of Richard Strauss' 'Also Sprach Zarathustra' to see how dramatic this kind of sequence can be. At 00.02.30 into the documentary most of the images feature seemingly ordinary scenes in the life of the Golden Gate Bridge; the music offers an alternative introspective context which betrays a pensive emotion. The sound features strings and samples, lightly mixed creating a warm ethereal texture. The first four chords are essentially held together by the Eb and D# that runs through them. The changing context of the Eb/D# (bracketed) is what really creates the emotional quality. The idea itself is a reworking of the initial intro music chords, thus establishing the 'brand'.

Fig.15 *Film, 00.02.30*



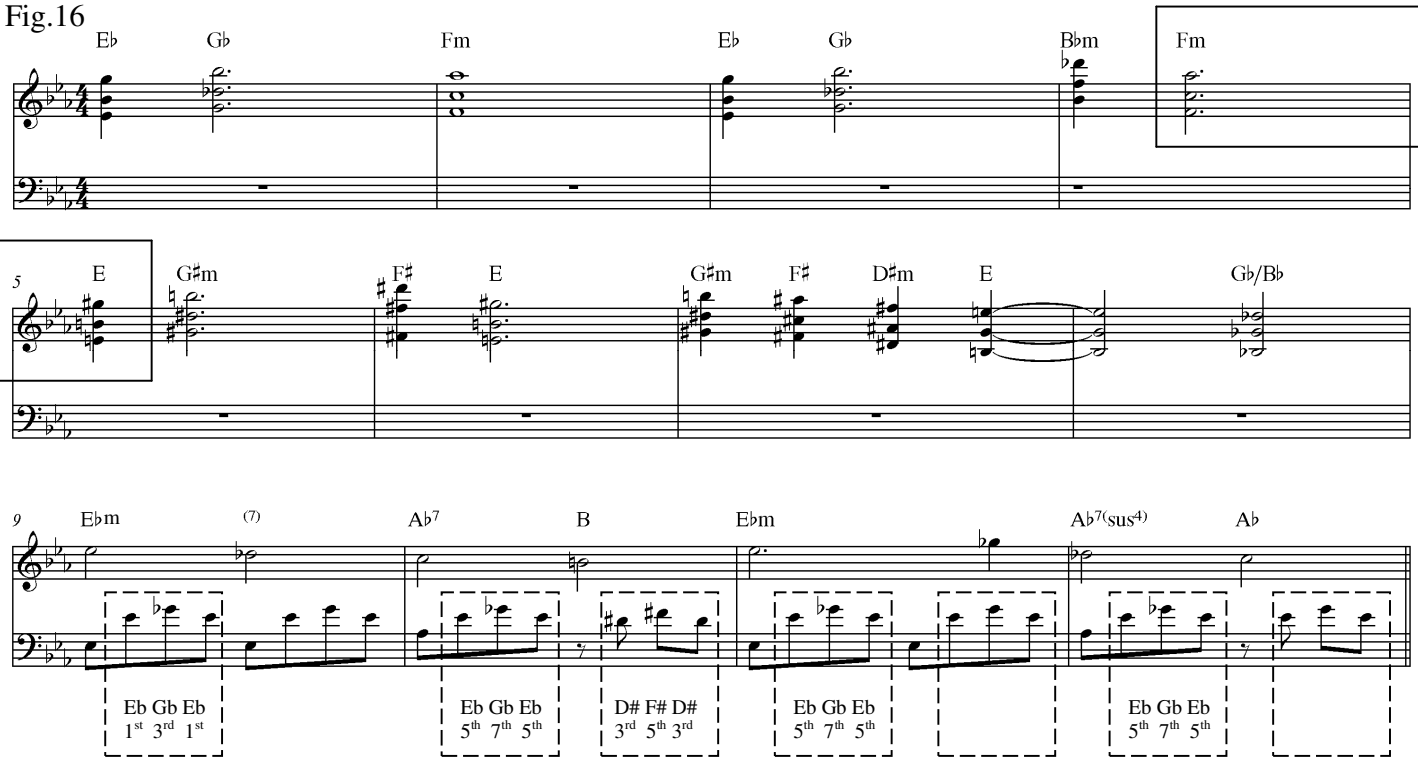
The section at bar five (00.02.42) is effective again because of the changing context of the Eb/D# (bracketed). Normally the transition between the chords of F and B offer no commonalities, but the addition of the 7th on the F chord creates a link between *it* and the major 3rd of the B chord (D#). This slightly softens and normalizes what is a slightly odd chord change.

The section at bar nine again references the intro music by virtue of the Eb, Gb, Fm, Eb chords, which lead at bar thirteen to the final intro chords. The score has established an effective musical voice for the emotion and narrative of the film.

Approximately 24 minutes into the film a particularly moving sequence of interview dialogue precedes a subtle piano entry. The interviewee, the father of a suicide victim, quotes his son's words, which were "My third attempt is not going to fail; I'll make sure of it". At this point a poignant piano line enters, which begins my restating the main thematic chords of Eb to Gb. Bar four carries the idea a stage further to Bbm and Fm but perhaps the most effective moment is the enharmonic crossover between bar four and five (highlighted) where the Ab (minor 3rd) of the Fm chord becomes the G# (major 3rd) of the E chord.

Film, 00.24.00

Fig.16



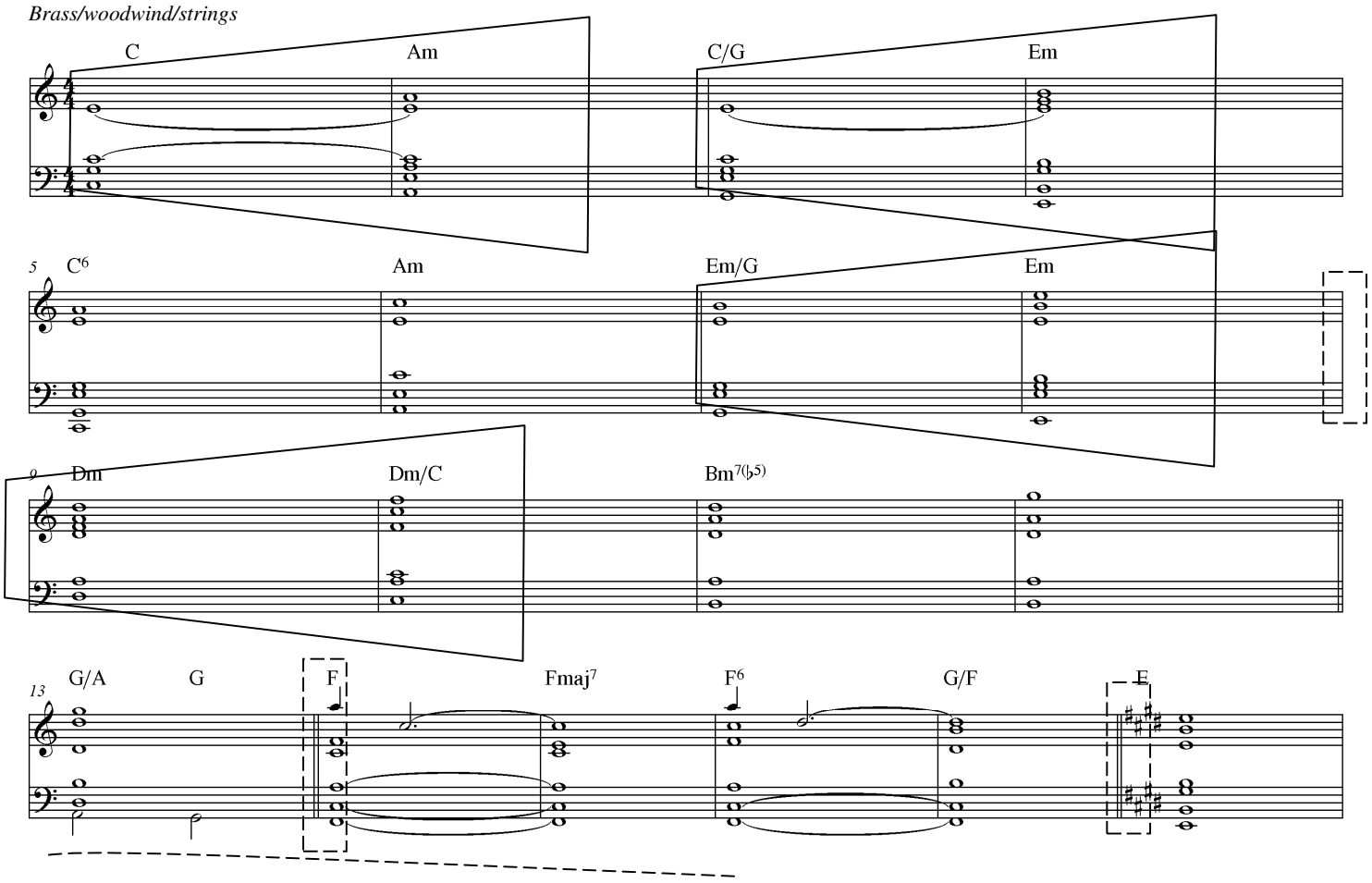
The section from bar nine is interesting by virtue of the left-hand piano accompaniment, particularly the notes highlighted with *, where the intervallic context is what changes (highlighted, perforated boxes).

BLUE PLANET *George Fenton*

We now turn to another landmark British documentary, the BBC's *Blue Planet*, featuring award-winning photography, excellent narration of David Attenborough and the equally iconic music of George Fenton. The episode we will focus on is *Blue Whale* and the musical sequence begins approximately 30 seconds into the episode.

Look at the sequence below, which features mainly strings and woodwind until the top trumpet line in bar fourteen. I have scored it out in the key of C in order to make the chords changes easier to rationalise.

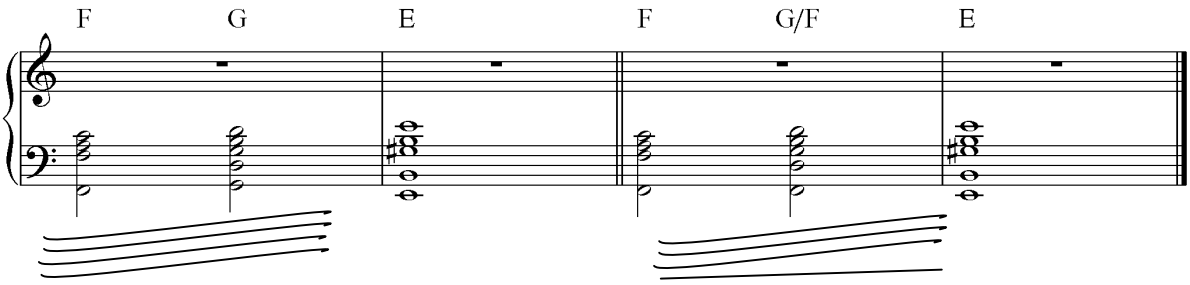
Fig.17 *Audio 'Blue Whale' - Film, 'Blue Whale' 00.00.30*



When listened to the piece definitely possesses uplifting and euphoric characteristics; but why? How? At first glance we would assume any kind of euphoria must surely be down to the instrumentation and orchestration; there doesn't seem to be any obvious uplifting characteristics in the harmonies. And yet when analysed in detail we realise the harmonies and voicings are pivotal and crucial.

Most of the chords have notes common to each other apart from the three places (perforated boxes) where chords change completely. In addition the voicing creates lots of contrary motion, as highlighted ( ). Also from bar nine to the end we have slowly descending bass movement. All these factors conspire to deliver music which has the potential to be effective. Add to this, once again, the use of inversions to skew the harmonic weighting and cause drama and you have some great harmonic ingredients. In addition to all the above, there are two more small factors in this sequence which have a major impact on the overall complexion of the piece. The first is the issue of the pedal note. If we look at the first two-bar sequence below and then look at the same sequence again in bars three and four, we can see how much more dramatic the second version sounds.

Fig.18



This is because the pedal bass in bar three creates more varied movement (all movement is not at the same rate); also the pedal bass note means the final resolution to the E chord features contrary motion in the voicing. Finally the gravity and drama of the *effect* of the penultimate slash chord cannot be understated. I say this because usually no one chord possesses much intrinsic dramatic value or context; the chord *sequence* creates the effect. There is no such thing as a 'good chord'; there are only effective chord sequences – sometimes two chords, sometimes much more. Sometimes the effect of a particular chord is solely because of the chord which came before. The effect of musical harmony is not necessarily linear in that the effect of a specific chord does not always happen at the same time as the chord appears. Music is reactive; the effect of music is cumulative not always instantaneous.

The second and final issue is contained in bar 12 where the chord remains a Bm7(b5) but features a top melody note of G on trumpet. This doesn't necessarily clash but it doesn't 'fit' in a conventional sense. The bar after provides the 'fit' when the chord becomes a G, but even then we have the transitory slash bass note providing momentum and drama. These small, seemingly innocuous moments actually play a large part in the success of George Fenton's music; especially his scores for countless nature documentaries.

Fig.19

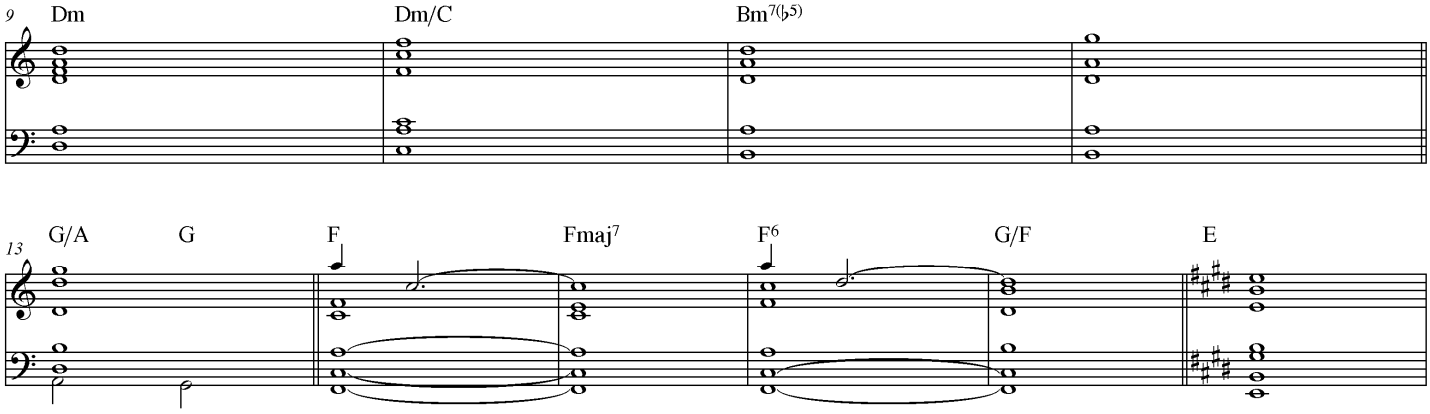
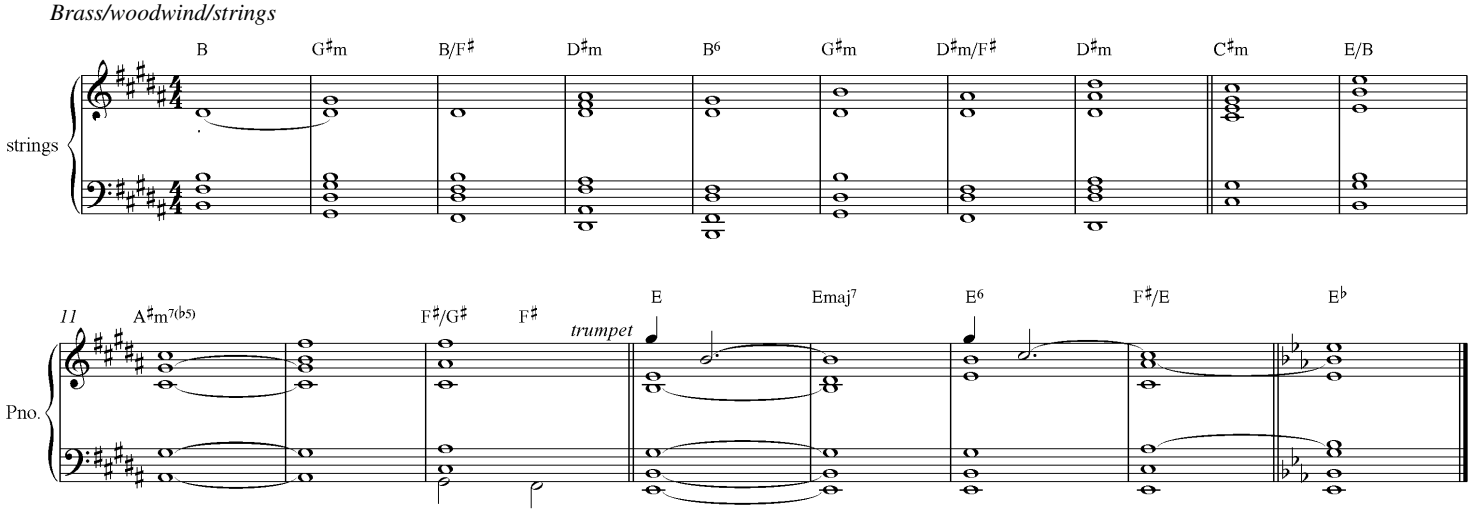
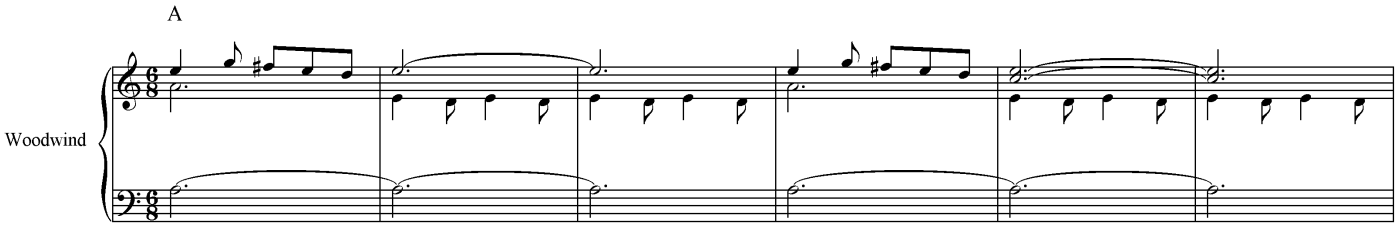


Fig.20 The section is scored out below in its original key of B.



The next musical sequence is approximately 8.50 into the same episode. As with the previous example for ease of analysis it is scored out in an easier key a semitone higher than written and recorded. To begin with the raised 6th (F#) and 'lilting 6/8 feel offers the piece a distinct modal flavour which can often suit wildlife or 'outdoor' documentaries.

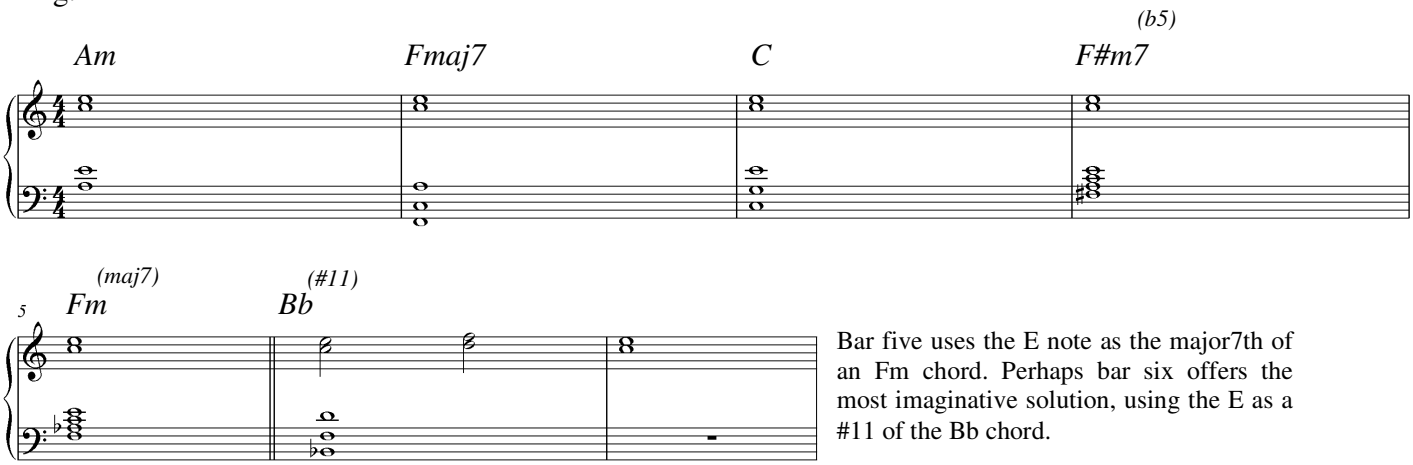
Fig.21 *Film, 'Blue Whale' 00.08.50*



The modal feel is complimented by the distinct lack of chordal harmony throughout this first section. There are no complete chords; the 3rd is missing but the major6th appears which adds to the modal feel. Also the sequence benefits from the mildly odd three-bar phrases (bar one to bar three; bar four to bar six) which ensure it doesn't sound too normal or traditionally structured.

If we examine for a moment how we might evolve this melody, we are drawn perhaps to different contexts in which the E note could exist. Below I have scored some examples / possibilities. The first one below simply carries on using the E in context of the Am chord. Bar two offers the E as a major 7th of an Fmaj7 chord. Bar three gives us the E as a major 3rd of the C chord. In bar four we go outside the key centre and use the E as the 7th of F#m7 (b5).

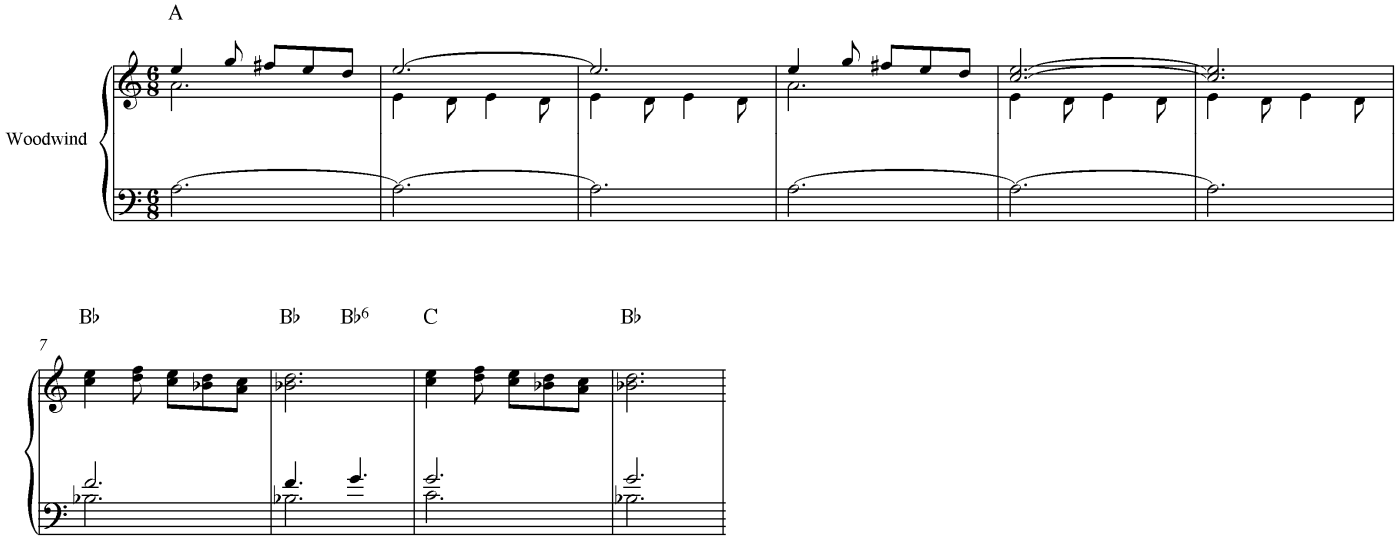
Fig.22



Bar five uses the E note as the major7th of an Fm chord. Perhaps bar six offers the most imaginative solution, using the E as a #11 of the Bb chord.

If we now look at the actual finished passage which uses the E as the #11 in bar seven of the piece, we can see how it is an mildly dissonant antidote for the square and modal feel in the first six-bar section of the phrase. It constitutes a real sense of freshness.

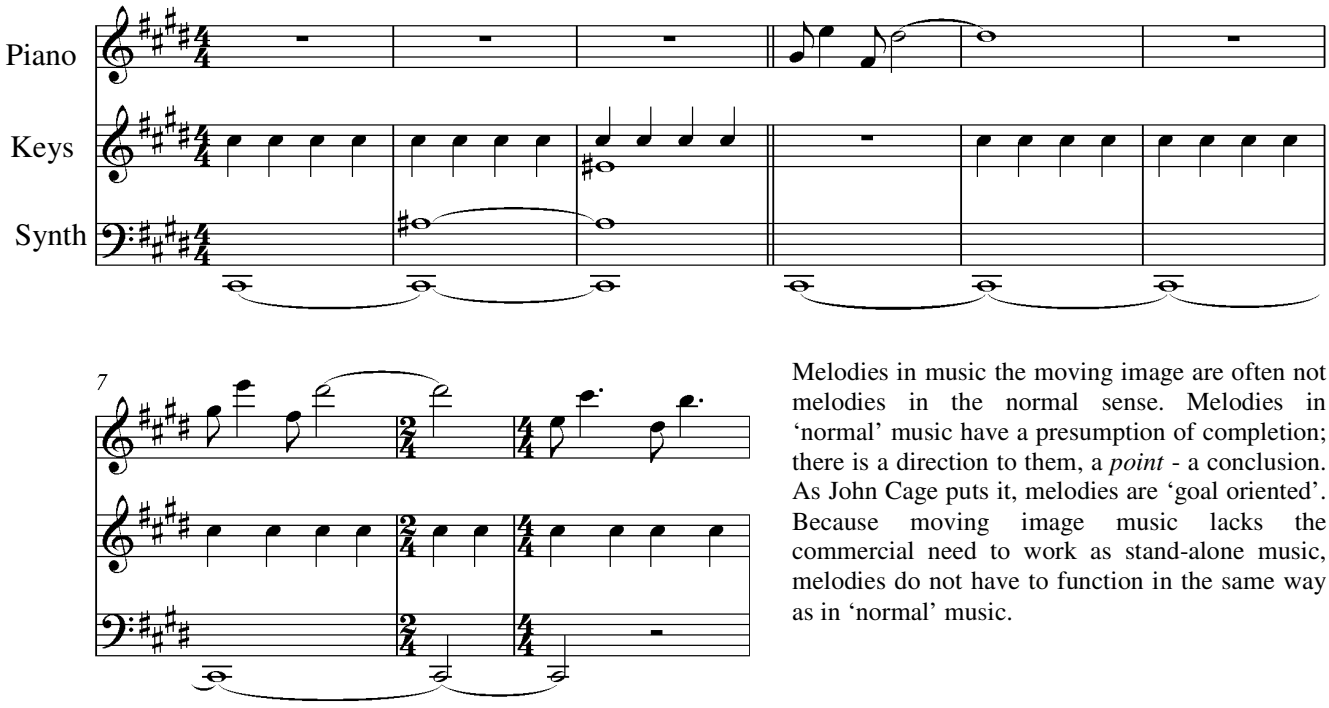
Fig.23 *Film, 00.08.50*



THE CORPORATION *Leonard J. Paul*

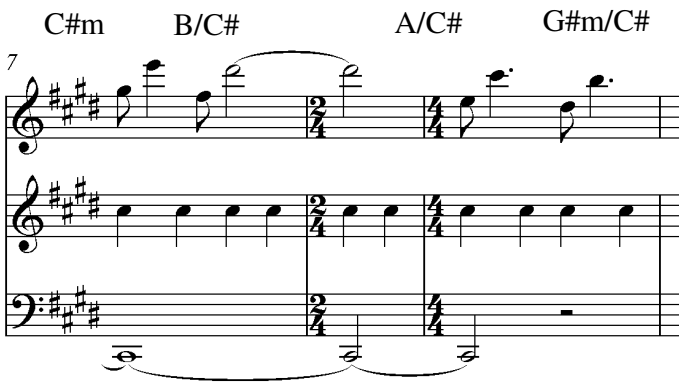
This documentary shows the rise of the modern Corporation, charting its development from initial beginnings through to the vast commercial institutions in existence today. Specifically it deals with the moral issues and practical problems resulting from the empowerment of Corporations over the years. The documentary concentrates mostly on American corporations and is a radical expose which lifts the lid on many issues. The revelations and vast uncomfortable truths in this documentary make for difficult but compelling viewing. The music succeeds in highlighting the issues with some compelling but subtle music. It is sensitive and in places poignant and emotive. The idea transcribed below is one of the main themes for the film. The version below is played over the DVD menu for the film.

Fig.24



Melodies in music the moving image are often not melodies in the normal sense. Melodies in 'normal' music have a presumption of completion; there is a direction to them, a *point* - a conclusion. As John Cage puts it, melodies are 'goal oriented'. Because moving image music lacks the commercial need to work as stand-alone music, melodies do not have to function in the same way as in 'normal' music.

Fig.25 (Implied chords)



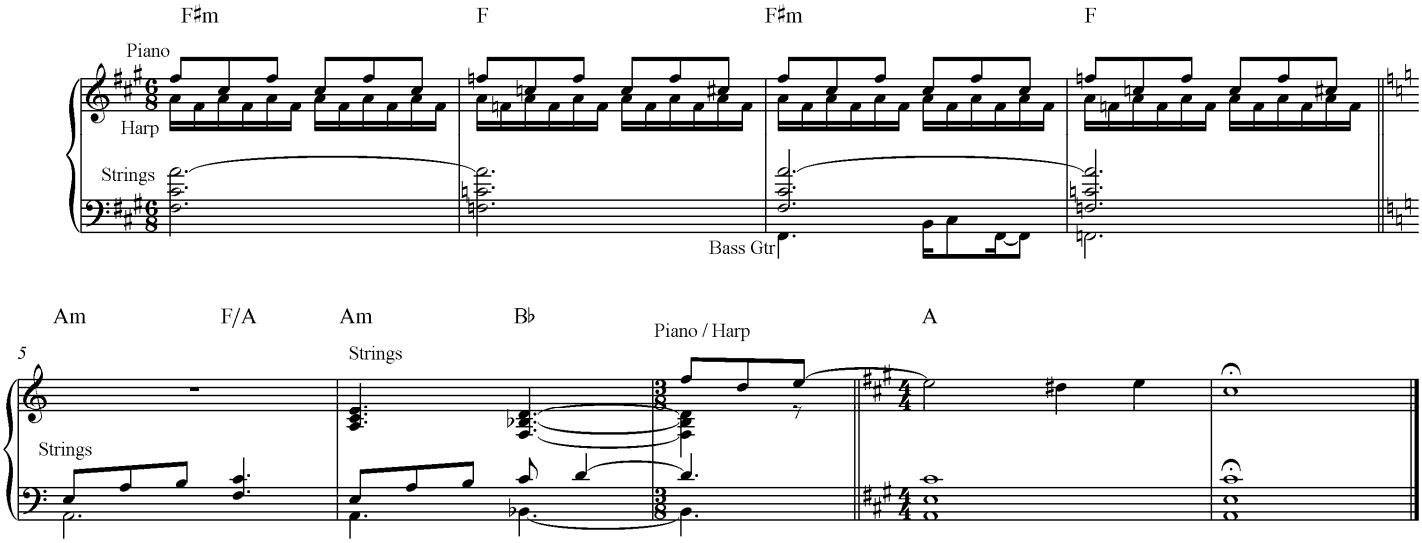
To the left we have a cascading melodic line over simple root-based accompaniment. The melody is rich with 3rds. Although there are no supporting chords, the melodic line creates horizontal harmony by implying C#m (bar one, beats 1 and 2), B/C# (bar one, beats 3 and 4 and bar two), A/C# (bar three, beats 1 and 2 and G#m/C# (bar three, beats 3 and 4). Horizontal harmony is a great moving image tool; listeners get the feeling of harmony without the fullness and convention of *actual* chordal harmony.

The 'melodic' sequence also benefits from a slightly odd accompaniment in terms of beats and bars. The 2/4 bar splits the regularity of conventional 4/4; if the sequence had been entirely 4/4 with the D# in bar two lasting 4 beats, it would be too conformed and predictable. What keeps it 'edgy' and penetrative is the disjointed meter.

LIFE IN THE UNDERGROWTH *David Poore & Ben Salisbury*

Life in the Undergrowth is a BBC nature documentary series written and presented by David Attenborough. It was the fifth of Attenborough's documentaries following his major trilogy that began with *Life on Earth*. Music for all David Attenborough's documentaries is crucial and the music for this series was particularly good in creating a sense of wonderment and mystery. Documentaries that shape the world we see rely on music that shapes the world we hear; firstly the theme music, which is transcribed below.

Fig.26 *Theme from Life in the Undergrowth*



Think not of a 'normal' chord sequence driven by the need for a clear and unilateral musical direction and/or musical commerciality, but instead of a 'journey'. Here the piece goes from F#m to F, exploiting the common note (A) which moves from minor 3rd to major 3rd despite not moving as a note (sound). Allowing the intervallic context of a note to move but not the note itself is something we looked at heavily in volume 1 of 'How Film & TV Music Communicate'. The manouvre between F#m and F possesses a slightly mystical quality, not just because of the linking note of A, but because the linking note in both chords represents a 3rd – an enormously communicative and descriptive interval which harmonically 'colours-in' a chord. When we 'mess' with the 3rd either we always unleash disproportionate harmonic power into the equation.

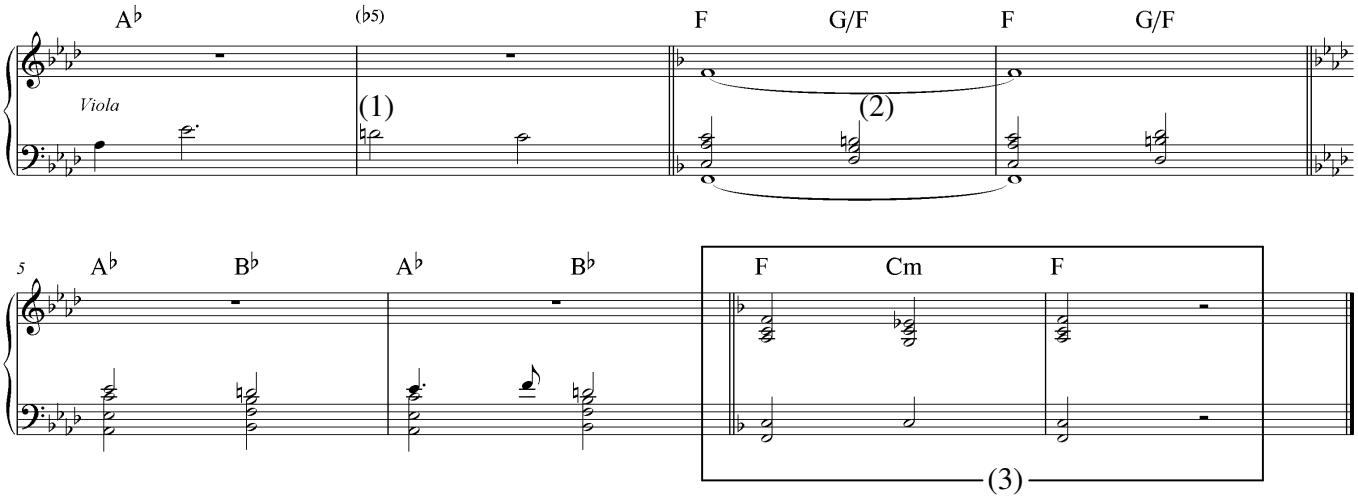
The shift to the F chord allows for a development section into Am and Bb, which creates a great slide down into the eventual and final chord of A. The key thing here is that the melody is not what drives this piece; in fact the melody is sterile and chromatic. The slightly monotonous and sterile line works because of the supporting harmony.

Fascinating Rhythm

What also makes the piece work well is that the rhythm of the melody lines first sound like 'straight quavers' (accompanied by semiquavers) in 4/4. Because there is no other 6/8 rhythmic movement supporting the top line, we are momentarily wrong-footed. The 6/8 time signature doesn't properly reveal itself until the momentum of the first few bars begins offers few alternatives. 99% of people will be oblivious to most of this and some might say it's irrelevant, but from a composer's point of view these kinds of obscure observations are crucial in understanding how and why the music communicates. As I said earlier, the dominant harmony in the first four bars of the intro music is the link between the F#m and F, sharing the A note with an alternating intervallic personality. The interval which dominates the last three bars is the sharpened 4th, appearing as it does as an E (over a Bb chord in bar seven) and a D# (in bar eight over an A chord). The #4 is a classic filmic interval which can inject (according to contextual surroundings) senses of wonderment, awe or mysticism.

Below another section from the same documentary series is transcribed. This episode is the 2nd installment in the series; it is called *Taking to the Air* and deals with flying insects. The episode benefits from some fantastic photography and deals with Mayflies and Dragonflies, who were among the first to take to the air about 320 million years ago. The context of this episode has almost mystical overtones and this is addressed in the following sequence which comes about 8.40 into the show when Attenborough is talking about a long-extinct flying insect which he brings to life in a laboratory, thanks to CGI. There are three specific harmonic issues I want to address; they are numbered 1, 2 and 3.

Fig.27 *Film, 00.08.40*



(1) The #4 / b5

To put things in context; if we flatten the major 3rd to a minor 3rd we fundamentally alter the complexion of the chord and if we lower a major 7th to the dominant 7th we alter the complexion of the chord, which becomes transitional and intermediary. But neither of these disfigures or skews the chord. If, however, we raise the 4th to make it a #4 we inject an unmistakable element and characteristic into the chord. This happens in bar two of fig.27 by virtue of the D note over the Ab chord.

(2) The slash chord

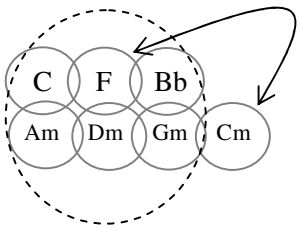
Slash chords sound expectant and unresolved. The bass sounds 'separated'. The bulk of the chord is in one context but the bass is elsewhere. This doesn't have the traditional air of the more traditional 'inversion' in that it slightly distorts & subverts. These chords are not as easy to distinguish as major or minor, but have a major feel to them with a 'separate, far away' sounding bass note. On bars three of fig.27 the B note has a slight #4 feel to it; indeed had the chord been an F chord then the B note would have been the #4, but the chord is actually a G/G, so what the B note does is accentuate the G chord and therefore by definition italicise the F (7th) in the bass of the chord.

(3) The filmic chord change

This is an effective transition which in the case of the bars seven and eight of fig.27 goes from F to Cm to F. In volume 1 of 'How Film & TV Music Communicates' we discussed this chord trick at length in the chapter 'Music Theory in Action'; we referred to it as the 'Star Trek' or 'Sci-fi' chord change because of its use in 'Space' movies such as *Star Trek, Alien* and countless others.

It is primarily effective because the Cm lies outside of the F key centre, which gives the transition a real feel of movement.

Fig.28



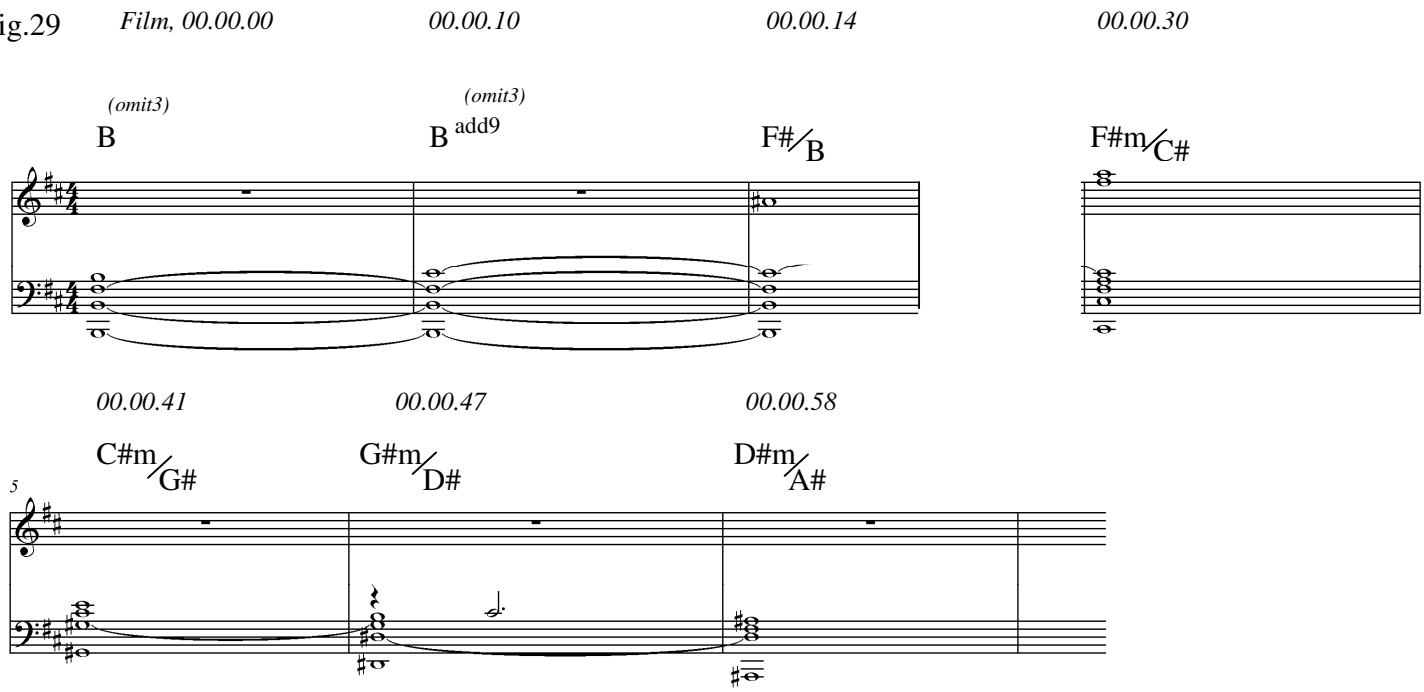
If we were to play a chord sequence of F to C it sounds like what it is; a basic, ordinary chord sequence. If, however, we change to C to Cm this takes the two chords outside of each other's relative key centres. As we discussed in volume 1, a majority of most music listened to doesn't stray outside its key centre (in the case of the key of F, the chords inside the large circle above (fig.28). Chord sequences in which one of the chords falls outside the key centre can often be more striking.

PAYING THE PRICE: KILLING THE CHILDREN OF IRAQ *Nick Russell-Pavier*

John Pilger's documentary deals with issues surrounding the economic sanctions imposed on Iraq which led to the mass suffering and death of hundreds of thousands of children. Pilger's documentaries are important; they represent a sobering antidote to the sanitized news narrative faithfully delivered by our mainstream media. Pilger travels with Denis Halliday, a former assistant secretary-general of the United Nations, who resigned over what he called the 'immoral policy' of economic sanctions.

There are numerous interviews and footage, much of which is revelatory, disturbing, distressing and largely unknown by the public at large. As we have seen elsewhere in this chapter, when finding music to accompany difficult scenes or subjects, the music seems often to gravitate either towards non-descript, broken chords (chords in which the usual defining intervals are absent) or inversions; inversions can be *dramatic* without being *melodramatic.* In the example in this film the composer uses a soundscape-style synth-driven sound palette. Some of the sounds are stark and abrasive but the success of the music is mainly down to the choice of harmonies. As with many scores for documentaries which tackle emotive issues, melody does not feature heavily. It would be too intrusive. Long, drawn-out harmonies provide the colour and the drama.

Fig.29

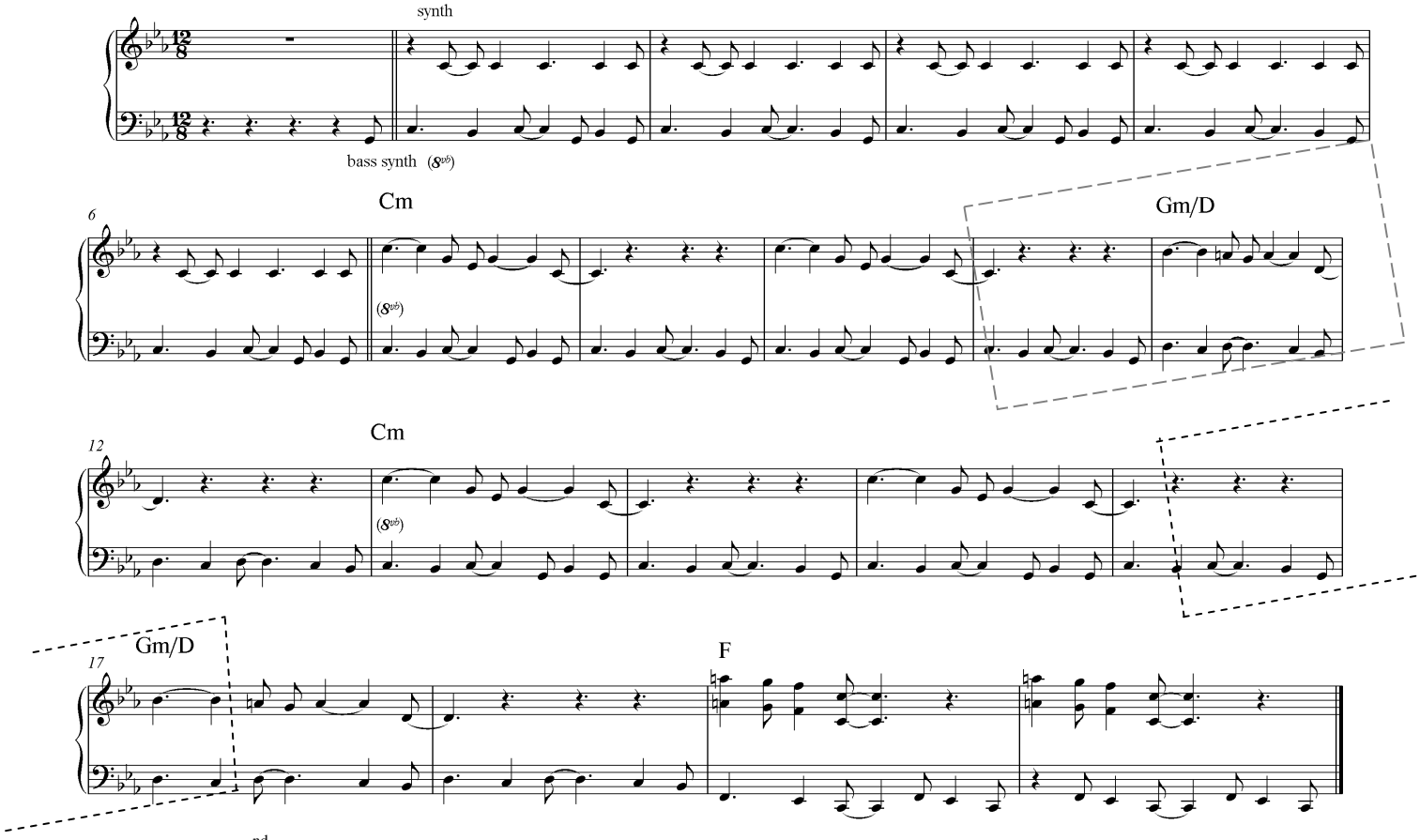


The 'omit3' chord – what does it do? Quite simply when we listen to chords with no descriptive interval (no 3rd) we lack the usual emotional signifiers which give the chord character and identity; the 3rd literally colours the chord in. Without the 3rd chords tend to be stark, bleak and desolate. In bar two the 9th is added. Normally this extension would accompany a 'full' chord, not one missing a 3rd. A combination of no 3rd *and* the 9th adds a strange colour. It almost recontextualises the colour the 9th provides. We are used to rationalizing extensions in terms of their distance from the root – so in context of a B chord the C# is called the 9th. But the way extensions relate and react to the 3rd of a chord is important, and in the chord we've just looked at there is no 3rd, which in a way means that part of the character of a 9th is gone.

The inversions in bar four-seven (which span 20 seconds of the piece) are interesting because they're all 2nd inversions. This is why it possesses a distinct 'flavour'. As stated elsewhere, used properly inversions create gravitas and drama. Inversions slightly skew the context of a chord. The same notes apply but in a different position, giving them a slightly different weighting. Inversions, as we have observed elsewhere, also allow for unilateral economy and consistency in bass lines movement.

Moving momentarily away from the Pilger documentary in order to contextualise how 2nd inversions can work well, it's perhaps fitting to turn to *Oxygene, Pt.4* by Jean Michelle Jarre. Jarre is well known for his finely crafted and extremely distinctive electronic music. What is perhaps less understood or appreciated is how his music is so much a product of distinct harmony. This track is an example of a great melody supported by real craft in supportive harmonies, achieved with great evocative sounds.

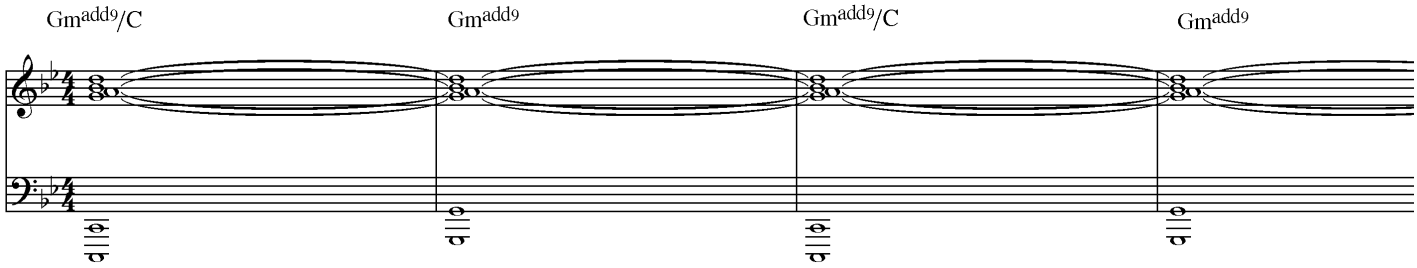
Fig.30 *Oxygene (part 4) 00.14 (Jean Michelle Jarre)*



The 2nd inversion offers an easier transition between the Cm and Gm/D and creates an uplifting feeling, not just because of the literally lifted bass but because of the dynamic created by the inversion.

To conclude the analysis of the Pilger documentary, we turn to a section toward the end of the film. I include this section in order to show how simply harmony can be subverted for emotive effect.

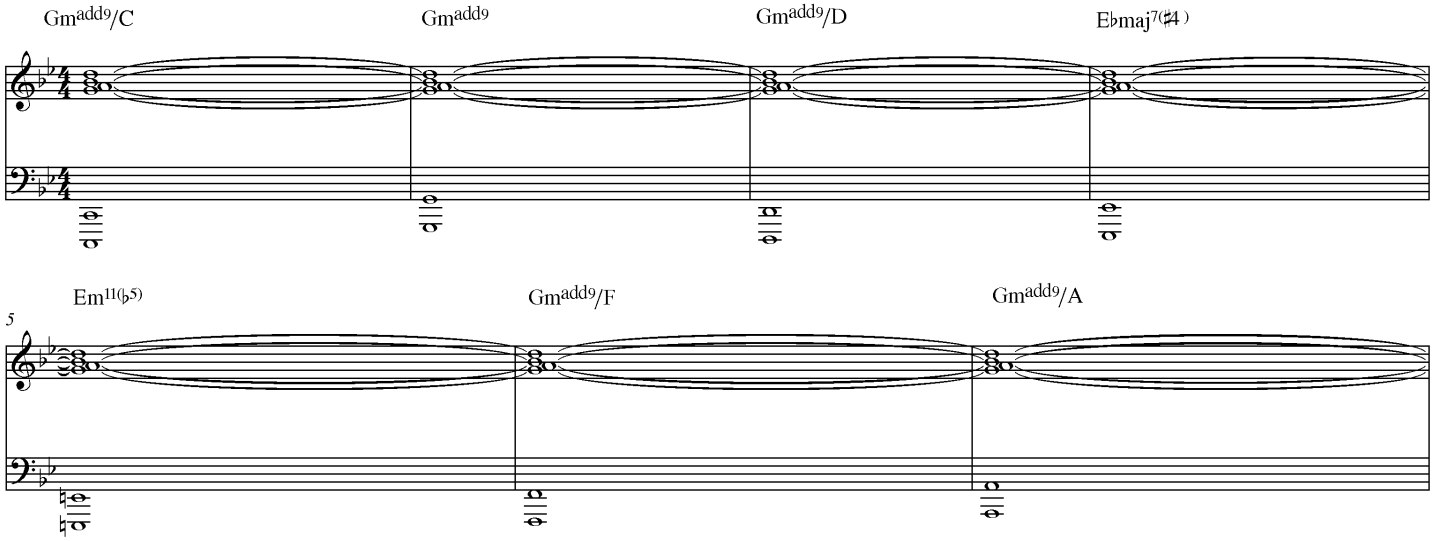
Fig.31 *Film, 01.05.00*



Adding the 9th to the Gm doesn't normally skew the complexion of a chord very much but sandwiching it in between the G and Bb creates a cluster chord which causes mild dissonance. Normally a 9th would be voiced a little more 'politely', not in a cluster fashion, unless of course, this is the effect you're after.
When chords with an extension are voiced in cluster fashion it actually makes it easier, not harder, to place different bass notes underneath.

Because the chord on top is less clear and a little ambiguous, a bass note is easier to apply because it isn't as obvious. Try playing these chords below on an ambient synth/analogue string sound. When we change the bass note under the chord significantly it changes our perception of the entire chord and in some cases (bars four and five) changes the chord's name. The notes assume a different aural and intervallic context.

Fig.32



There is really no such thing as 'a good chord'. There are good chord *sequences;* good chord *relationships.* Music is about context. It is about cause and effect. What makes music work is what comes before and what comes after, not just what comes 'now'. People have favourite bars of songs – hit points – but these are only hit points because ofthe way they are served and prepared. A chord gives something to the chord which comes after it. There is normally a polite exchanging of harmonic DNA which binds the structure together and helps music sound the way it does. It's almost like a musical version of Locard's Principle of Exchange.

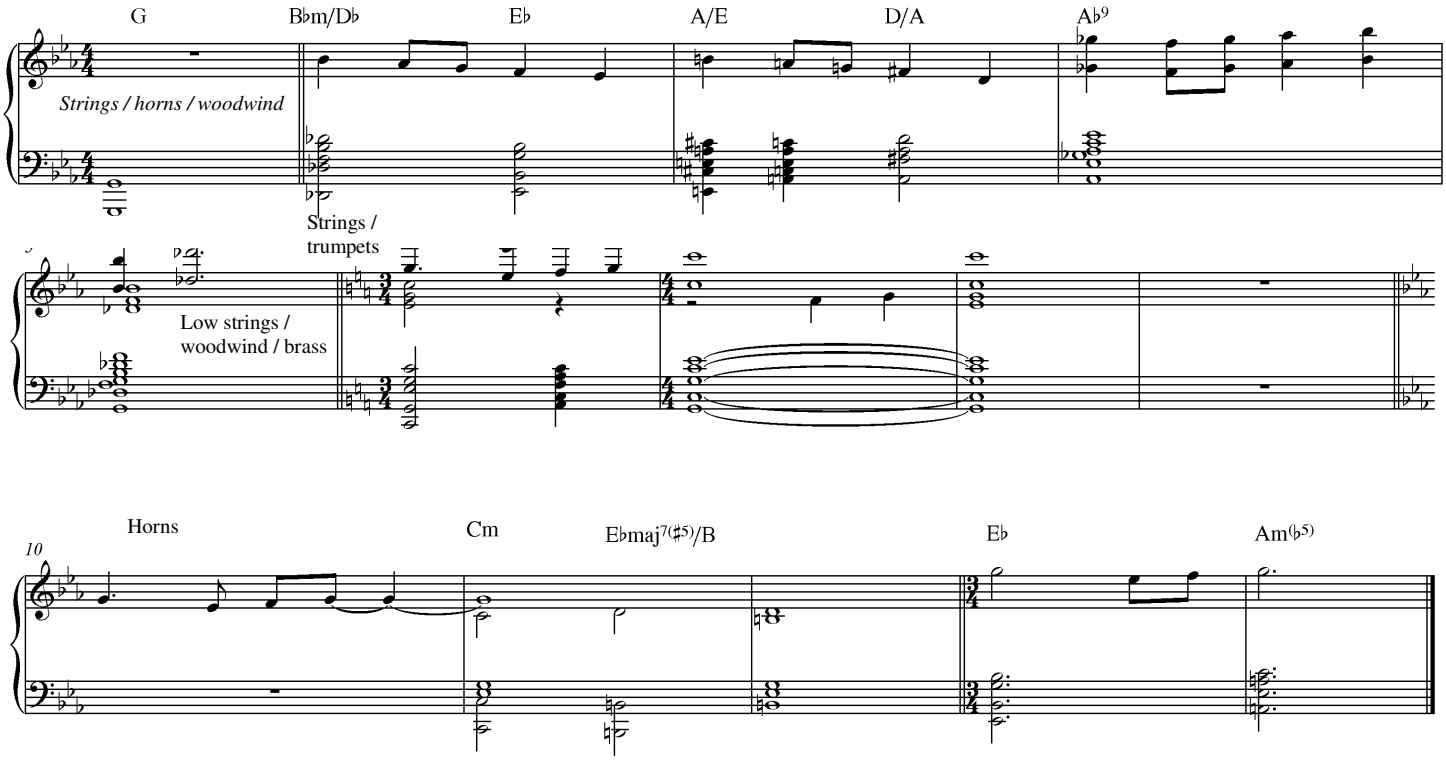
Chords usually fall into one of two very basic categories. They are either *reactionary* chords or *resolving/resolved* chords. Three things that determine whether they're reactionary or resolving are the environment (stylistic, instrumental), the context (surrounding harmonic terrain) and the actual chord type itself. I make this point simply because composers often underestimate the environment in which a chord exists; its surroundings.

Planet Earth *George Fenton*

Planet Earth followed in the footsteps of *The Blue Planet.* With a budget of £ 16m it was the most expensive and lavish documentary series the BBC had ever made. Money came from the BBC (who retained the worldwide rights), and also from the Discovery Channel (who retained the American rights) and NHK (Japan's state broadcaster) who retained the Japanese rights. Thus *Planet Earth* was literally a global undertaking. The music was by TV and film composer George Fenton and featured some of the most communicative and emotive music to appear in a television documentary series.

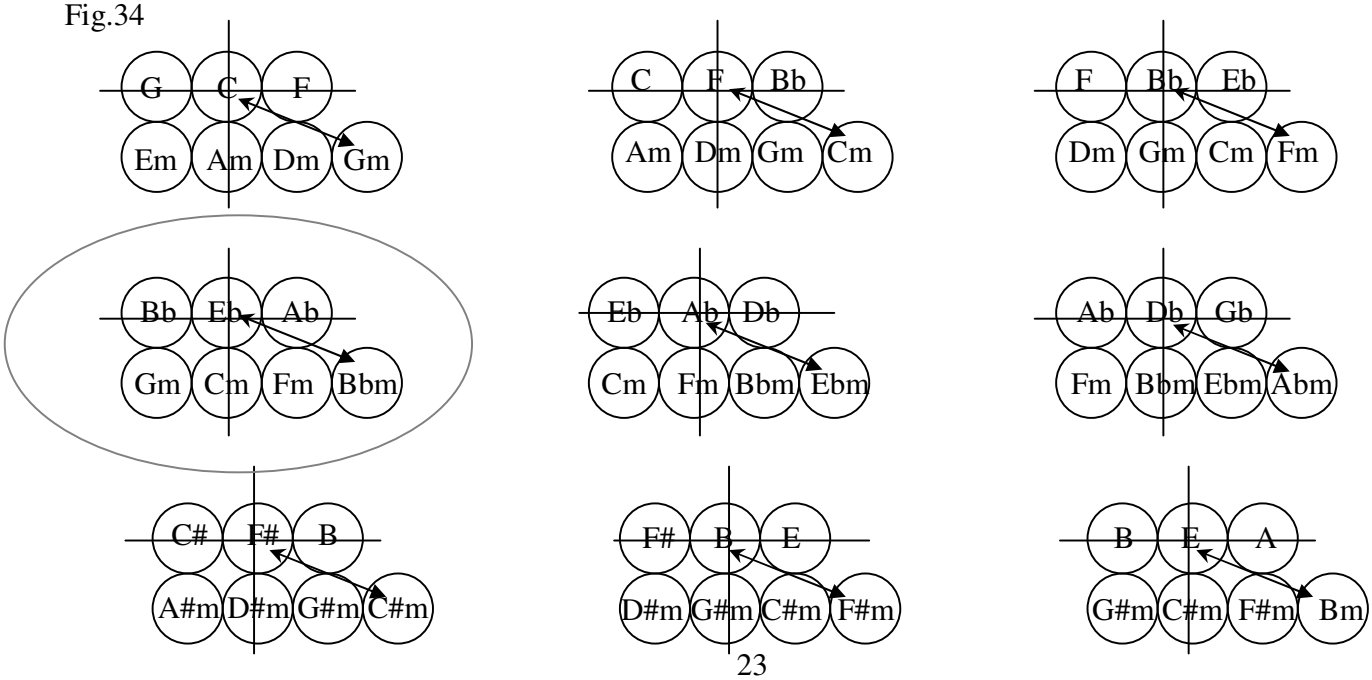
Bars one-nine of the transcription below are of the intro music (which is the same for each show). Bar ten-fourteen are from the episode called *Pole to Pole* and show how the musical motif from the main theme has been appropriated for the start of the episode.

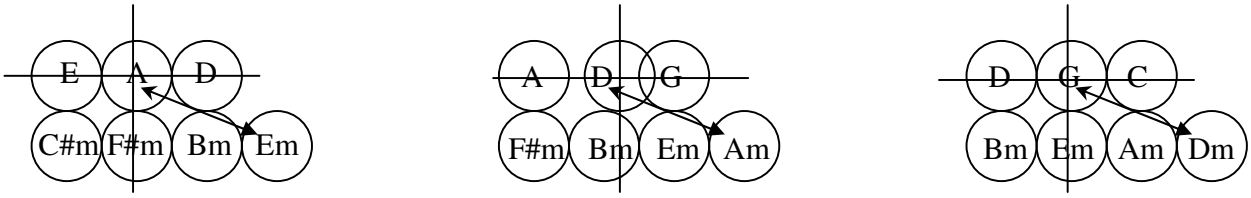
Fig. 33 *Film - Planet Earth (Pole to Pole)*



The key issue for us is how does the piece communicate the sheer magnitude, gravity and drama of *Planet Earth*? There are a multitude of reasons how and why this short piece works well as the introduction music. Earlier in the book we looked at one of the most iconic filmic chord changes which we called the 'sci-fi chord change'. To refresh your memory, the chord change is below: It is notated the chord sequence in all its keys.

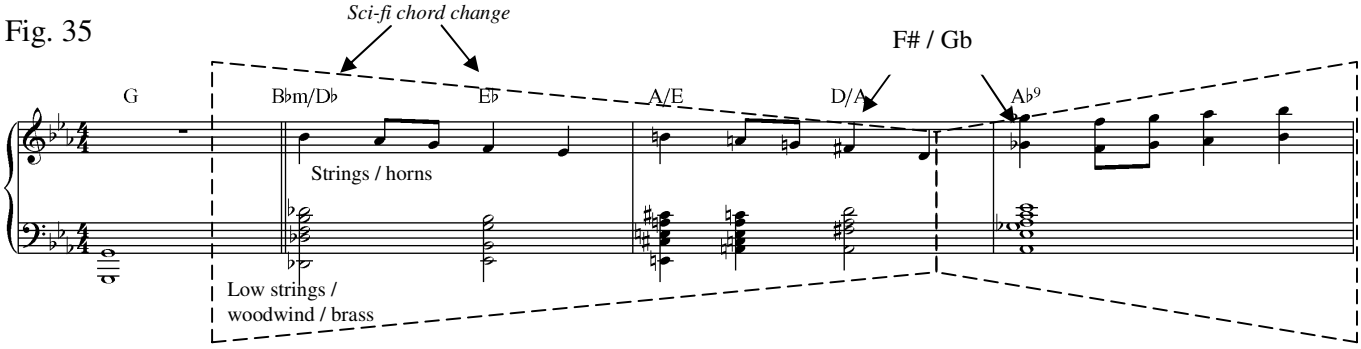
Fig.34





With this in mind we can see the first harmonic transition of the intro uses the sci-fi chord change, well-known in creating an uplifting and inspiring feeling of wonderment and awe.

Fig. 35

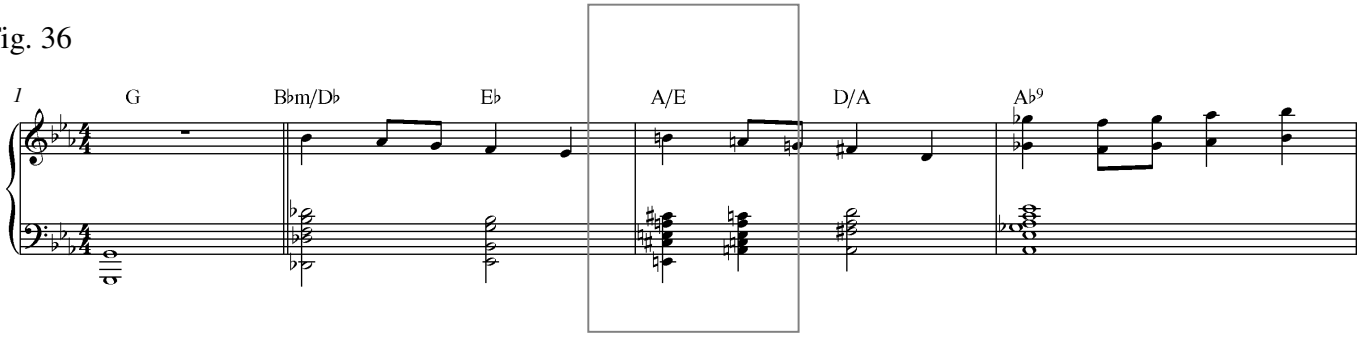


Within this same four bar section we can also see the utilisation of contrary motion (highlighted by perforated lines). As stated in other sections of the book, contrary motion can be rationalised as an architectural device that helps music 'breathe'. It's rarely something that is heard unilaterally but, whilst virtually inaudible, music nevertheless relies on it.

The 'A' bass note of the D chord at the end of bar three moving downward to the Ab9 chord in bar 4 is worth noting too: the inverted D chord is crucial here in navigating to the Ab9. A simple 'D-to-Ab9' chord shift might sound too odd, too chromatic, being a #4 apart; the inverted bass (A) makes the bass transition a semitone down. Also what cannot be overestimated in terms of tweaking the dynamics of harmony is that the A underneath the D chord represents a 5th whereas the Ab underneath the Ab chord represents a root. There is thus a wide difference in the intervallic context of what the A and Ab represent in terms of the chords they belong to. This prevents the A bass to Ab bass sounding as chromatic as it otherwise might.

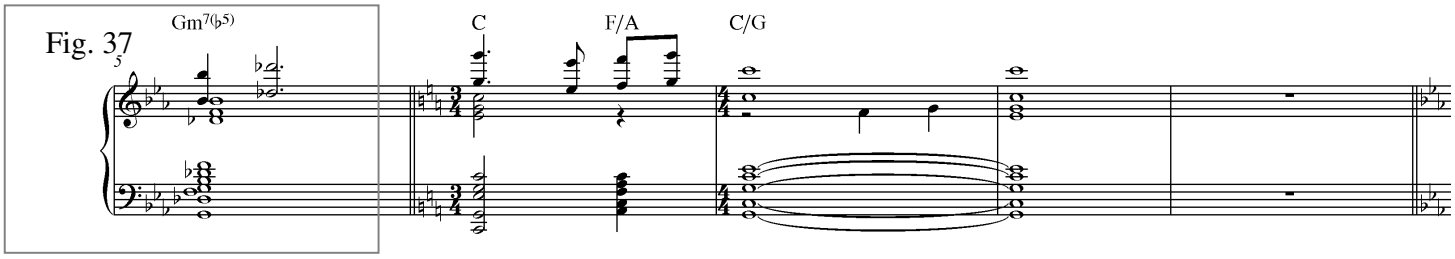
We can see from the same section repeated again (below, fig.36) Fenton's fondness for embedding extensions and inversion into the fabric of the voicing to slightly blur the harmony; the 9th over the A chord (which is already inverted over the E) significantly alters the harmonic dynamic.

Fig. 36



Following on, we can see, in bar five, a slight alteration of the Gm-C sci-fi chord shift (the 5th has been flattened). Also, looking from bar six-seven we can see one of the central defining aspects is the bass movement from C to A to G which acts almost as an alternate functioning melodic line. The grand final chord (bar seven) before the music bleeds into the opening scene of the episode is, once again, an inversion. Perhaps a root-positioned chord would have been too obvious; too normal.

Fig. 37



The theme stated in bar six-seven is restated in bar ten as the episode itself begins (below, fig.38). This is a classic way of establishing a musical link which binds the intro and the much more sedate first few bars of the episode itself. Thus the 'intro' doesn't really end, in the same way that the underscoring doesn't really have a beginning; the two blend together.

Fig. 38

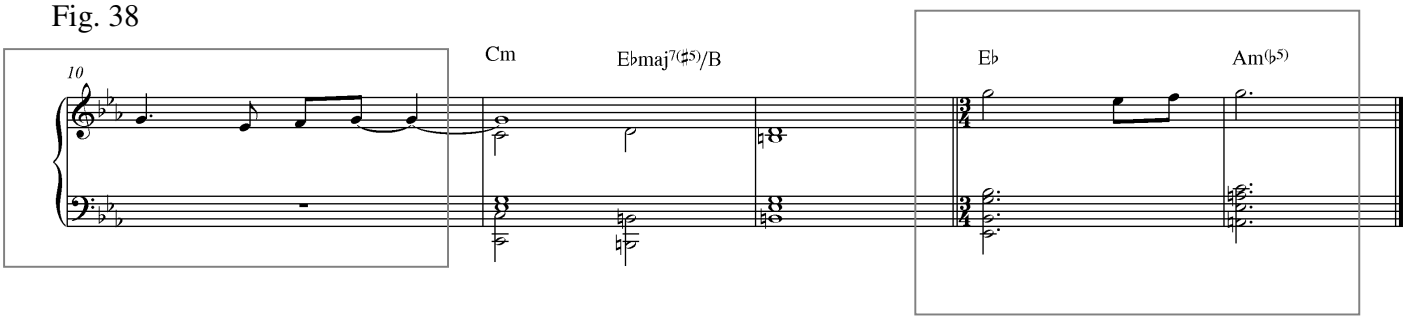
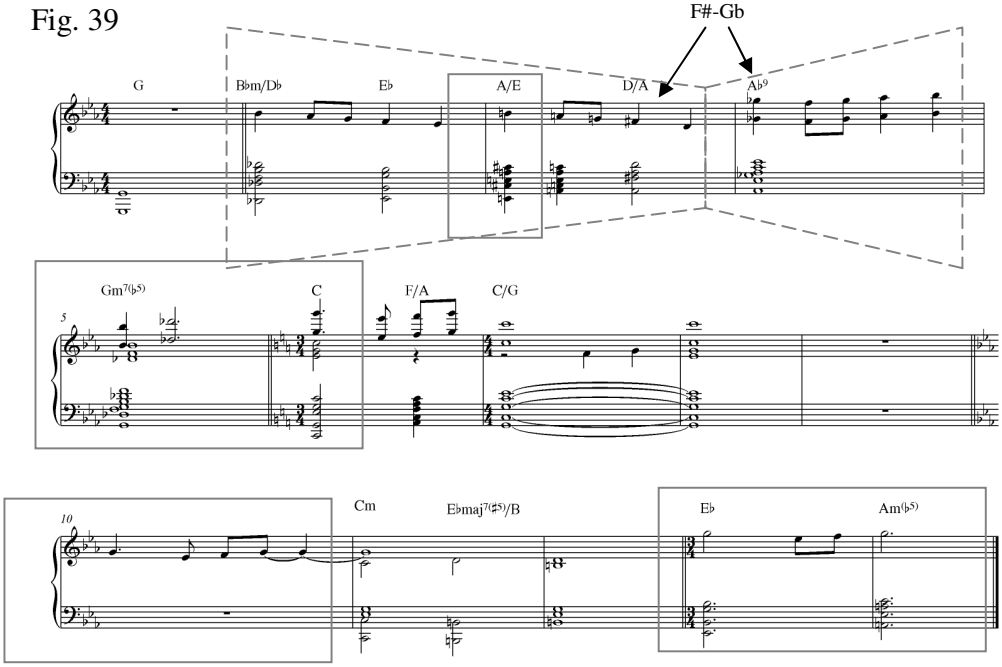


Fig. 39



This deliberately miniaturised version (fig.39) has all the observations previously highlighted in order to give it some cumulative context. The structure, the commonalities, the architecture; everything can be explained, everything can be rationalised

Whether it's a tendency to weave in and out of different key centres or the use of inversions (which in some cases smooth-out difficult harmonic sequences and in others causes subtle, almost imperceptible distortion); whether it's the extension notes in the melody or the iconic filmic chord changes - none of this is accidental. The romantic ideal of the composer sat at a piano waiting for the great inspiration and being led by forces beyond his / her control or understanding is essentially a myth which has the effect of making us revere the great composers and make us worship their greatness as if it were an unfathomable act of staggering genius. What binds music together is a variable collection of structures, dynamics and decisions; decisions which have consequences. It's not about genius, it's about the science of harmony and how we lock into its array of possibilities; possibilities which may be vast but which, equally, can be rationalised and understood.

So much of music's ability to create emotion is about the manner of its architecture, design, construction, balance, placement, configuration, formation, assembly, structure and organisation. The ironic thing is that most of these tend to happen *afterwards* – a reaction to an initial compositional idea. People do not normally think in such forensic and clinically structural or architectural ways when they have an idea. These are the things that happen to ideas in order to knock them into shape and make them into music. Some composers do the design after each bar, some after every phrase. Some leave it to others to do it. One problem is that many ideas that have great potential, but also the misfortune of not communicating instantly, are lost. Too many composers think music literally *comes to them* whereas music is usually a collection of existing structures or templates – most of which will germinate from the depths of your memory before colliding with your imagination and intellect. During this process you will pick away at music's great structural strength and integrity before sculpting something which can be called *yours.* Music is not just a series of accidents or good fortunes we stumble across.

There may be something accidental and fortunate about the way in which you finally make the finished product your own, but there is nothing accidental about how and why harmonic sequences or melodic lines or specific voicings *work,* just as there is nothing accidental about how a brick wall manages to stay upright. Music is a collective of structures, traditions and dynamics that make it sound understandable, credible and plausible. These are the details that make music communicate and give it structural and emotional currency and credibility. Composition is only half the story. The real colour in your music usually only comes with care and attention to arrangement, orchestration and / or production.

Many of the great film score composers function the same way many of the great classical composers did; most were not writing for prosperity; they were writing for the moment. As an example, many of Mozart's work were never, ever designed to be played more than a handful of times. The concept of prosperity was often a subsequent historical societal dynamic. This is not to say classical music doesn't deserve reverence and scrutiny and analysis, only that we ought not to place music in a context it doesn't deserve and never asked for.

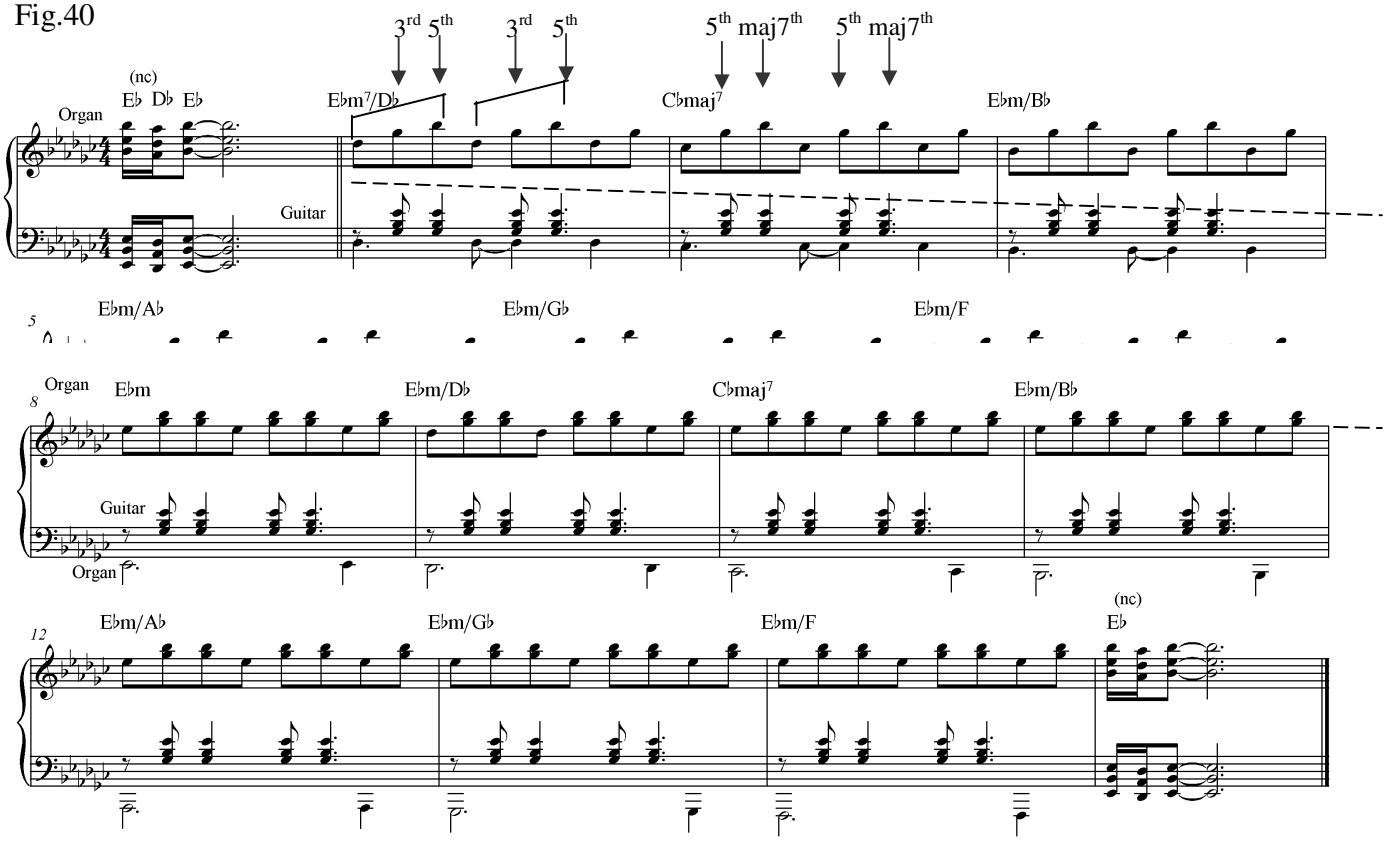
Analysing music is a great idea but burying it in the cotton wool context of blind reverence and the belief of personal greatness at the expense of all other analysis does it no favours; it hides the manner of its construction and substitutes the very real abilities of skill, expertise, mental dexterity, judgment and vivid imagination for absurd and unprovable metaphysical notions of genius. Music is many things, but mostly it is craft and perspiration. Books, musicologists, historians and academics regularly expend time analysing the minutiae of personal or historical detail and in doing so they sometimes close the door on sensible, rational analysis to seek to explain the great musical works that have been, and continue to be, written.

WORLD IN ACTION *Shawn Phillips*

Turning to two of the most iconic and recognizable themes in British television history, the first is the theme to the long-running ITV investigative documentary series *World in Action*, composed by Shawn Phillips. The show featured two musically emblematic themes; one as intro and the other as outro. The intro (below) was instantly recognizable due to the first two striking chords. The reason they were striking is because of the sound (instrumentation) and the music (the information; the harmonies). The harsh and arresting organ sound made people sit up and take notice but the harmony was probably the reason why people remember it now, forty years later: the chords had no distinctive descriptive 3rd interval. They were bare, stark root and 5th 'power' chords. The lack of defining intervals denied them the normality and, sometimes, ordinariness which comes with absolute definitions. When people here a 'normal' chord, i.e. one which contains either a minor or major 3rd, it conforms to what they expect, so in many ways, because it satisfies and fulfills their expectation, it offers no surprises and no excitement. Concentration isn't required in such large quantities. What bare chords do, or other chords which omit the 3rd, such as the sus4 or sus2, is retain the attention and the engagement of the listener.

World in Action introduction theme

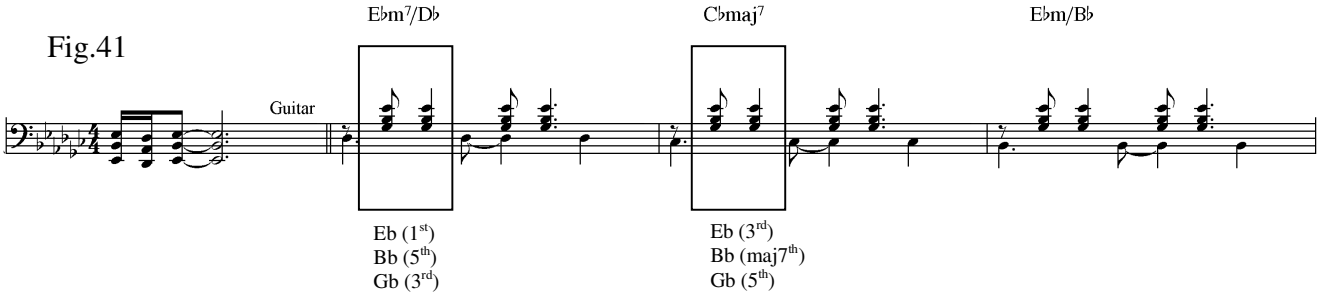
Fig.40



Another thing to remember here is that the rhythm of the melody is anticipatory which gives it a rushed, urgent feel. This counters the potential monotony of the same notes repeated. When a piece is in 4/4 there is a subconscious expectation of order; that beats will fall neatly into one semibreve, two minims, 4 crotchets or 8 quavers. This melody *does* fall into 8 quavers but the emphasis is groups of 3 quavers (highlighted in fig.40) which disturbs our senses and affects our response. In addition the Gb and Bb notes in bars two-seven constitute different intervals according to which chord is implied or stated in the accompanying harmonies [as highlighted].

Bar two begins on the Db; each subsequent bar begins on a notes which gradually ascend for seven bars, offering the piece a separate downward narrative (highlighted by perforated line). Turning to the 'left-hand' accompaniment which is performed on acoustic guitar, the top quaver harmonies represent different harmonic context despite remaining on the same 'sounds' – i.e. notes.

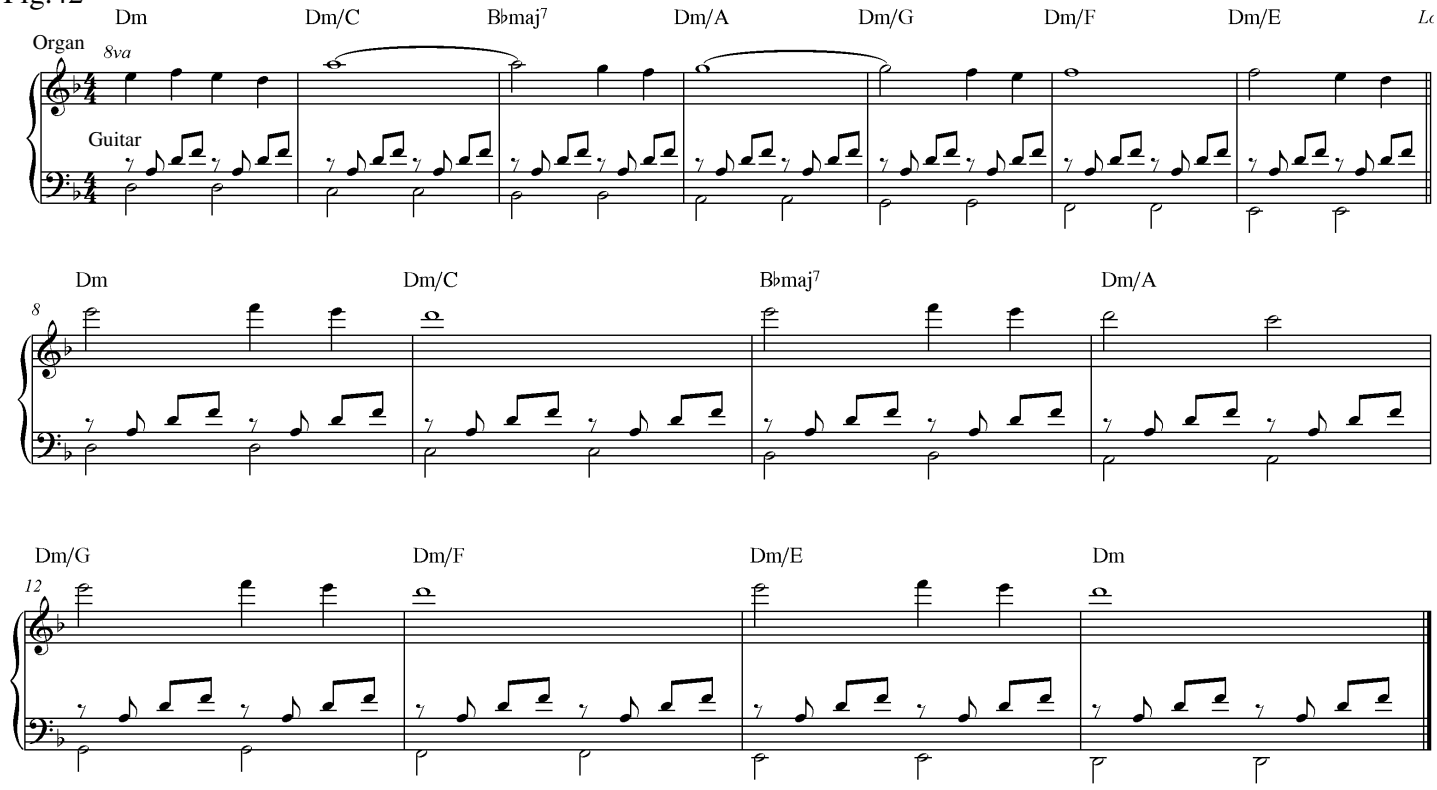
Fig.41



The outro music features the same instrumentation but quieter. Similar descending chords are featured but the speed is slower which offers a deeper, more reflective, thoughtful and insightful take on the original (see fig.42).

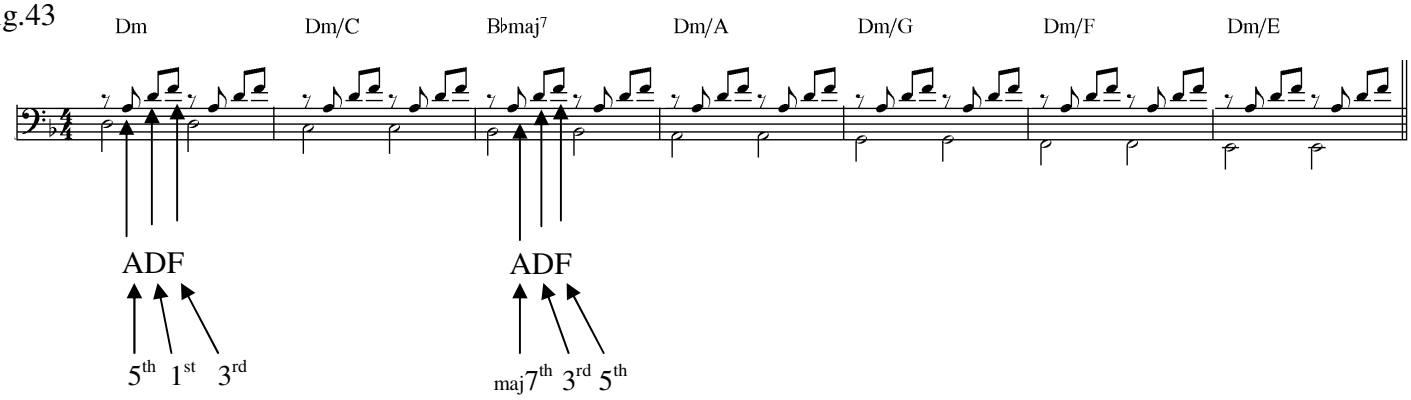
World in Action outro theme

Fig.42



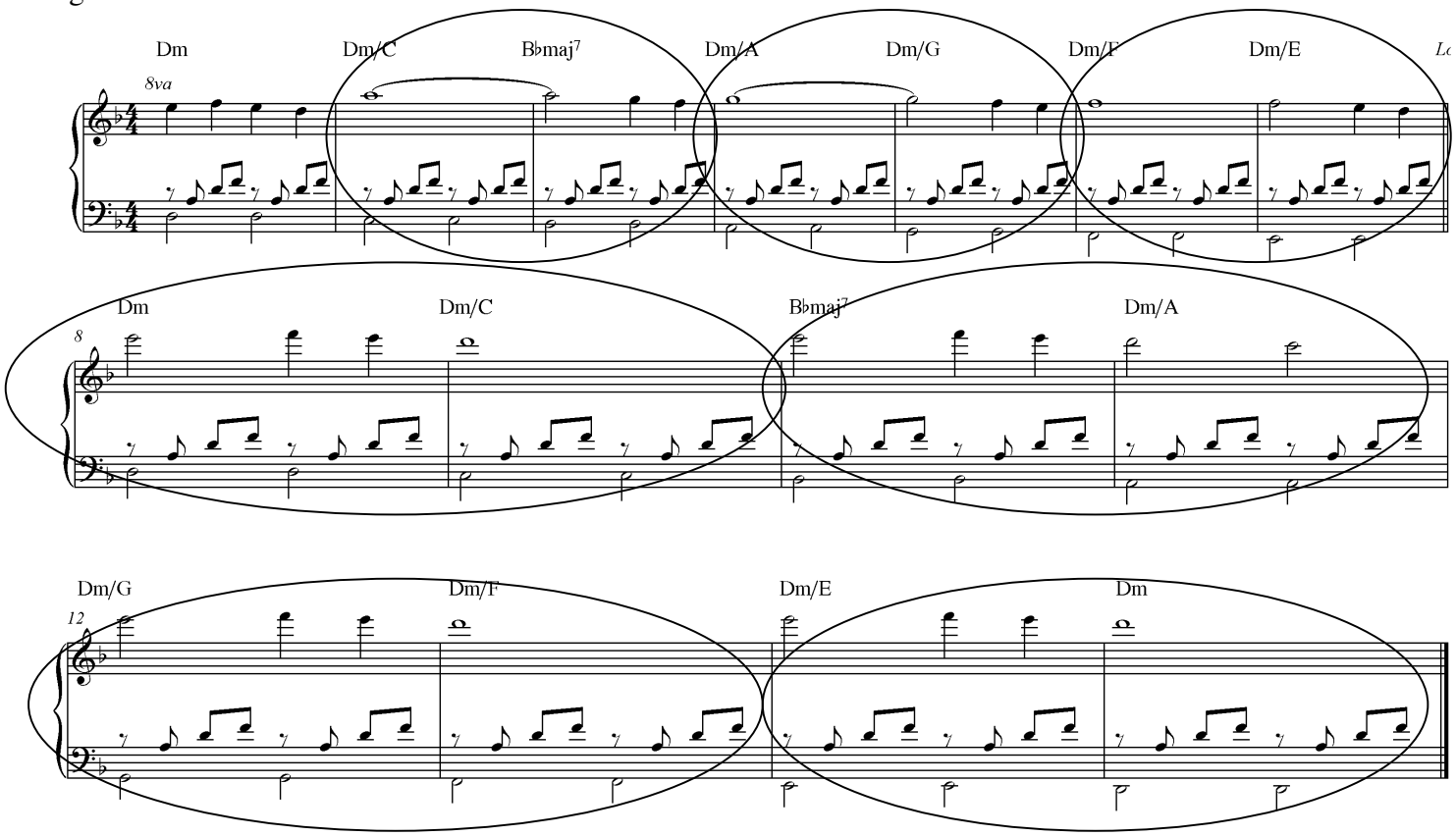
There are a couple of important points in this piece which are important in understanding how the music transmits emotionally. The first is that once again we have same notes representing different intervals according to the accompanying chord, as displayed below. This ensures that the repetitive line is more mesmerizing that monotonous; the notes/sounds remain the same but *what they mean* evolves.

Fig.43



The other interesting issue (below, fig.44) is that the slightly languid, brooding, meditative style is caused by a slight imbalance of the phrase structure. It's difficult to slot into neat 4-bar repetitive phrases if you analyse through a traditional assumptions of time and metre, i.e. with an automatic, natural and in-built assumption that the phrase *begins* where it appears to start, e.g. bar one. However, if we assume the phrase begins on bar two (e.g. that bar two is effectively the first bar of the phrase) it makes more sense. Now it seems to fit into neat two-bar or four-bar phrases. When we listen to this piece we are 'thrown off the scent' of an obvious 'even bar-structure' because bar one doesn't sound like an extra bar; it initially sounds like the beginning of the phrase. The ascending bass line starts on bar one, which reinforces our perception and presumption of the phrase beginning on bar one, not two.

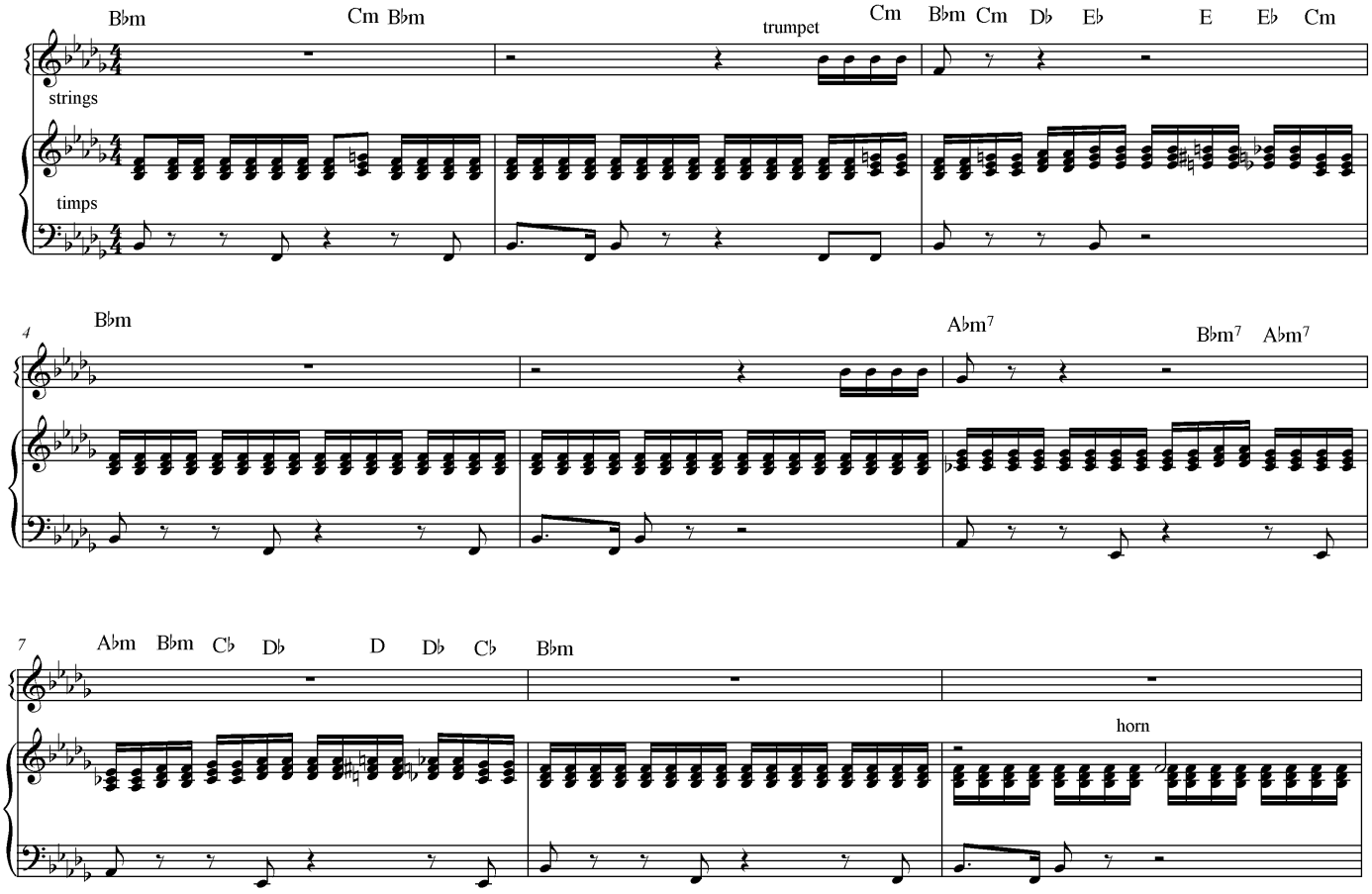
Fig.44

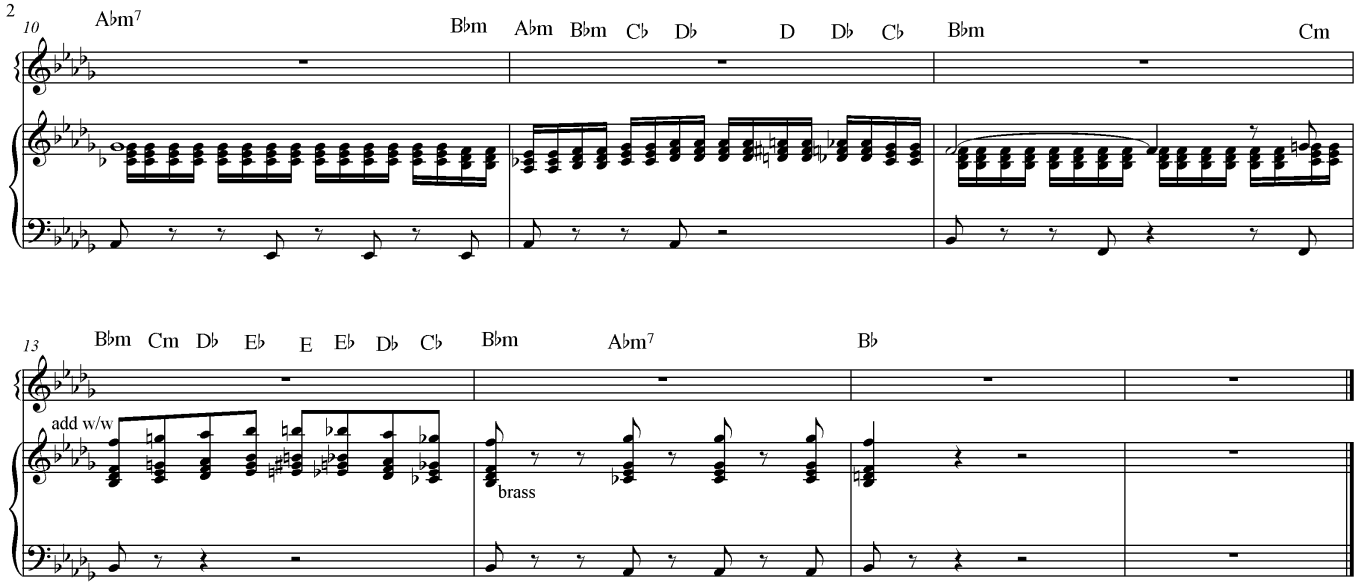


P A N O R A M A *Francis Lai*

The most famous and instantly recognizable music to *Panorama* was actually not its first theme. The initial theme was replaced by the contemporary piece *Aujourd'hui C'est Toi* in the late 1960s, which had previously appeared on the soundtrack to a 1966 French film *Un Homme et Une Femme.* The music was originally composed by Francis Lai. If ever we needed a sobering lesson in the versatility of great composers, listen to this piece and then listen to his other famous themes, notably the theme from the movie *Love Story*. The two couldn't be more different and yet come from the same mind. Composers of music for the moving image are much less prone to becoming hostage to a specific style or approach, perhaps because by its very nature composing music for moving image requires a different mindset depending on the nature of the project. One cannot impose a style or approach on a film which with which it doesn't fit. Nor can one get immersed inside a specific style or genre. Thus the normal twin concepts of a composer's personality and ego often don't work in music for the moving image. Songwriting is an extension of the person, the personality, the ego. Film music is functional. It serves the personality of the film it accompanies.

Fig.45 *Panorama theme*

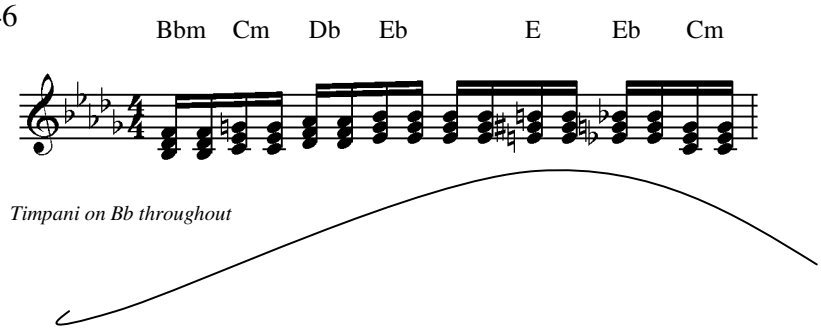




Perhaps the most notable musical idea at work here is the semiquaver strings, which bring a sense of drama and urgency to the piece. This was one of the first current affairs / documentary themes to use such an approach and it is a testament to the success of this that numerous copycat themes were written for current affairs programmes during the 70s, 80s, 90s and beyond. Even now, in 2013 we find political documentary series using frantic minor-chordal strings to instil and sense of urgency and gravity.

In *Panorama* we don't always hear the semiquavers; indeed in some bars they sound like quavers, not semiquavers. Some of the notes are so subtle they almost sound ghosted. Despite this the semiquaver articulation is essential to the success of the piece and the way the harmonies are delivered. However, the dramatic urgent strings do not alone explain the specific and long-lasting specific style accorded to this piece. We have to look, as ever, to the harmonies. The ascending and descending harmonies are crucial to the success of this piece. The timpani stay on Bb for the first five bars so we listen to the semiquavers in bar three in context of that harmonic prism. We therefore have varying levels of dissonance as the chords ascend and descend.

Fig.46

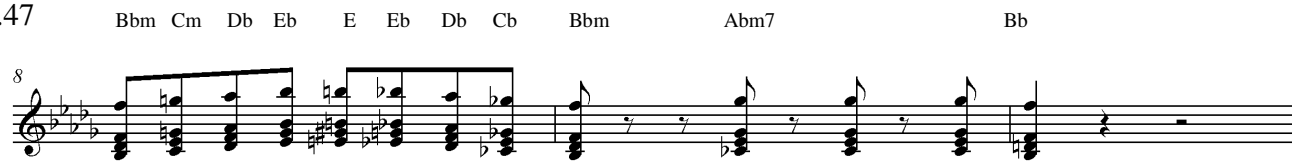


As we can see from the example to the left, there is a contour of harmonic intensity as the chords become gradually more (and then less) dissonant/dramatic. The Db string chord on beat 2 is essentially heard as a Bbm7 due to the Bb bass note.

The Eb chord, lasting the longest in the bar, entering in the second half of beat 2 and lasting for the equivalent of a whole beat until the first half of beat 3, is essentially heard as an inversion (because of the Bb bass note), which causes the first real but brief drama. But the real exquisite tension is down to the E/Bb chord which fills the second half of beat 3.

It is a combination of the gradual ascending and descending semiquavers, threading through varying levels of dramatic harmonic excitement, tension and dissonance, together with the speed and dramatic urgency of the semiquavers, which delivers the emotional intensity. The reason for the emotional human reaction, as always in these situation, is that the more difficult and dramatic harmonies, together with the rhythmical context of their delivery, forces us to engage on a higher level than more simple and straightforward music would. This can provoke a subtly heightened emotional state, which is why it works so well. The phrase from bar three comes once more in the final few bars to end the piece, ending with dramatically finality on the Bb chord.

Fig.47



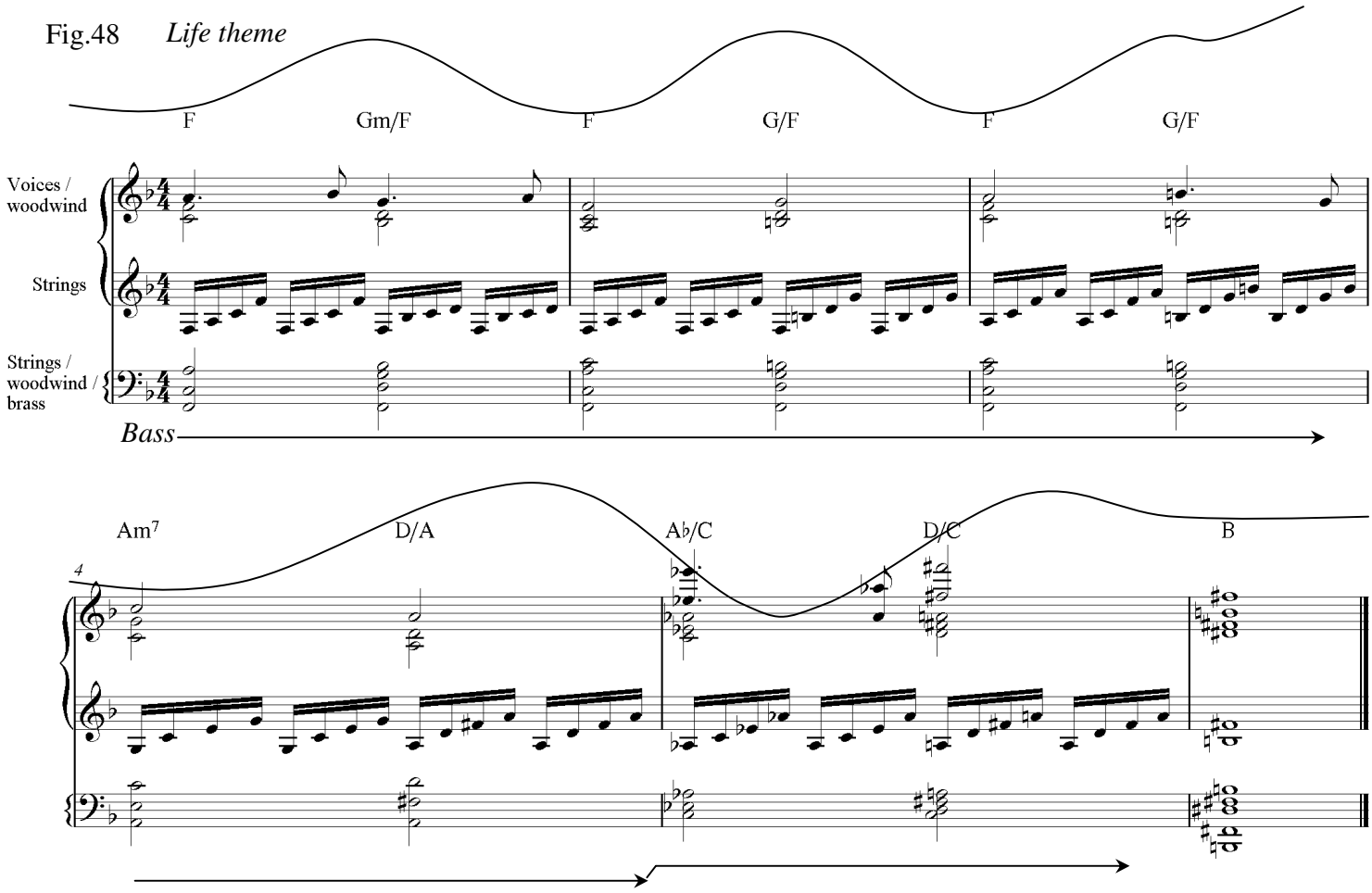
Documentaries are truth, not fiction

As I alluded to at the beginning of this chapter, with fiction, music provides the emotional bond between viewer and movie. Because the story is fiction it is hard for someone to believe; music can help forge that link. It completes the emotional bond. With factual films there is no need to take the viewer into a fictional world so part of music's function is sometimes redundant. Because most viewers have a bond already with documentary by virtue of knowing the subject, the context, the content and usually the conclusion beforehand (and electing to watch it) music can so easily become melodramatic and cliched. Over-scoring can sentimentalise or in some cases ruin a documentary because it can so easily emotionally over-compensate. Subtlety, introspection, reflection and contemplation are often needed much more in documentary; lighter, more obscure and less obvious brush strokes are often needed.

LIFE *George Fenton*

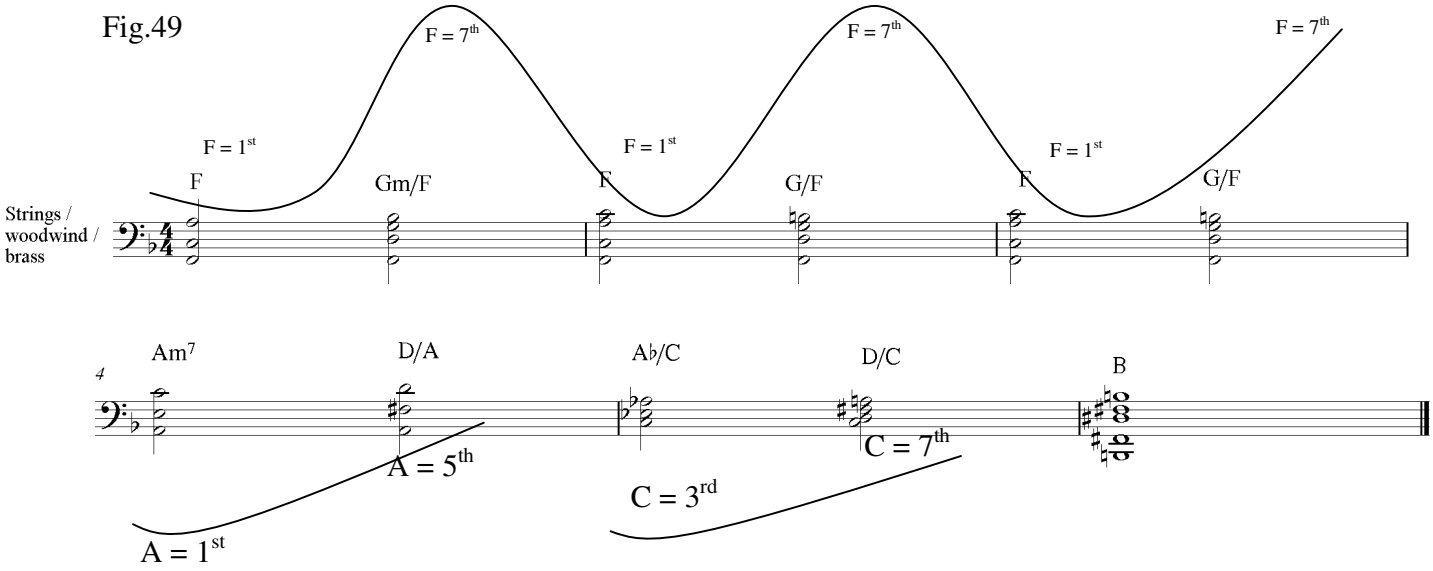
Life is a BBC nature documentary series, looking at plants and the major animal groups. The series documents intimate and dramatic moments in the lives of selected species. The intro music by George Fenton displays some of the drama, tension and great stylistic writing which so typified his music for the pre 21st century BBC news themes such as *BBC 9 O'Clock News, BBC Six O'Clock News, Newsnight* to name just a few. The brief opening theme is abbreviated below.

Fig.48 *Life theme*



The piece features a selection of inversions and slash chords which do their usual job of tweaking the senses, creating harmonic and emotive contours and heightening the sense of drama. The pedal note concept is strong in this opening sequence. The note of F is maintained through the first three bars with various chords on top, followed by an A pedal note in bar four (with two chords based on it; the Am7 and D/A) and a C pedal note in bar five (with two chords based on it; an Ab/C and D/C). The pedal notes are effective because although as notes they remain constant as notes their intervallic contexts shift rapidly. This chord version of the piece (below) displays the bass notes as notes and intervals. As we can see the notes do not move much but what they represent as intervals does. This is one of the contexts of music which affects the listener.

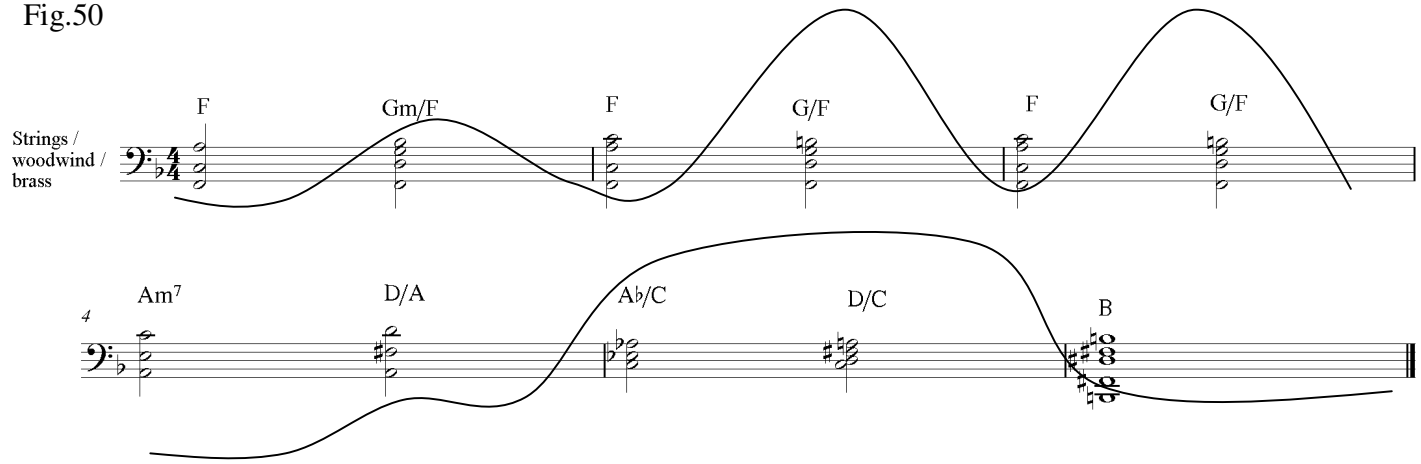
Fig.49



As we have discussed elsewhere inversions and slash chords can be multi-purpose in their use and application. By definition inversions and slash chords reconstitute harmony and alter the harmonic weighting within a chord. But, as discussed elsewhere, they also allow for consistency in bass contours. Part of the success of the opening few bars of *Life* is precisely this. It enjoys the twin benefits of a consistent bass line *and* the drama which always comes with reorganizing the voicing within a chord. Looking at the chords in terms of their emotive impact (e.g. how 'different from the norm' the chords are and how much drama and tension they create) is interesting because we see patterns emerging which also play a part in the way the chords work.

Chords in terms of their emotive impact

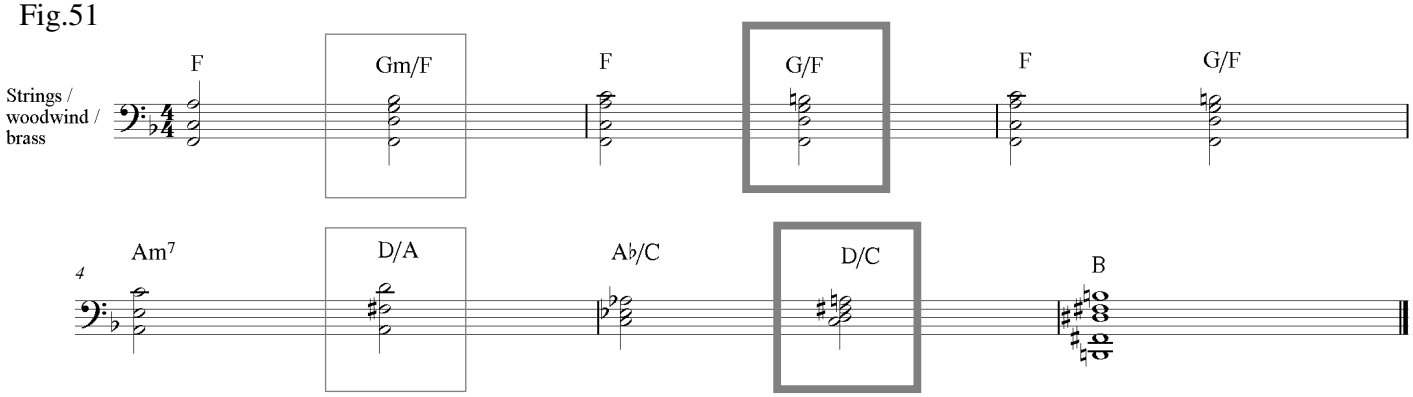
Fig.50



The continuity and evolution of harmony

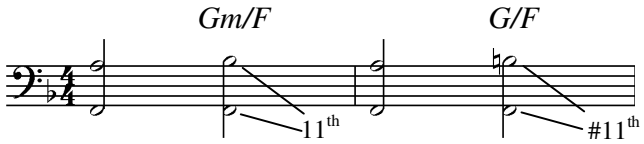
If we look at the different types of chord and in particular how and why these chords *are* different we can sometimes better understand how harmonies communicate. Below, again, are the chords from the opening sequence of *Life.*

Fig.51



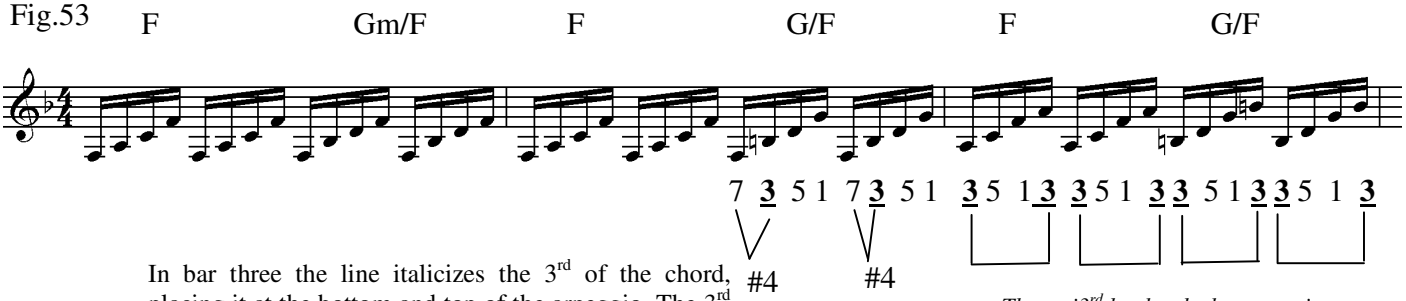
The G/F (bar two) could be seen as much stronger and more vivid than the Gm/F (bar one) and similarly the D/C (bar five) can be seen as a stronger and more dramatic than the D/A (bar 4). But why? In context of a piece of music with a key centre of F, why is the G/F more dramatic? In both chords the F note represents the 7th of the chord, inverted as the bass, so in that respect they are the same. However, there is an F in the scale of Gm but there is no F in the scale of G – the interval sits slightly less easily with the chord and thus is more dramatic and noticeable. If we isolate two of the components of both chords we can see the relationship within the chord that causes the higher drama. The intervallic relationship between the F and Bb notes in the Gm/F is a compound 4th (or an 11th) but the interval between the F and the B natural is a compound #4 (or a #11th). Therein lay one reason these chords behave as they do in terms of the drama they produce. The relationship between the bass of the chord (the 7th – F - in both cases) and the minor 3rd of the Gm chord (Bb) and the major 3rd of the G chord (B) is everything. The 3rd of any chord is its most potent participant; it is a descriptive interval which colours the chord. How notes relate to it is crucial.

Fig.52



So why is the D/C (bar five) stronger and more dramatic than the D/A (bar four) – two reasons; firstly because of its surrounding context: look at the three-chord sequence which includes the D/C in the middle - Ab/C, D/C and B. This shift goes through three different key centres before it's finished so *of course* the D/C will sound more dramatic because the context is dramatic (unlike the D/A chord in bar 4 which comes from an Am7 – a much simpler transition). The other reason why the D/C is a more dramatic chord than D/A is that the D/A is simply an inversion whereas the D/C is a slash chord which contains a note (the 7th – C) not found in the scale of D. And again we have the issue that the D/C features the interval of #4 between the C and the F# (maj3rd of the D chord). If we look one last time at the transcription but this time focus on the effective arpegiated strings, we see that they too reference crucial components of the slash chords. The line is particularly effective in the last two beats of bar two; the descriptive maj3rd (B) is featured and the interval between it and the low F is a #4.

Fig.53



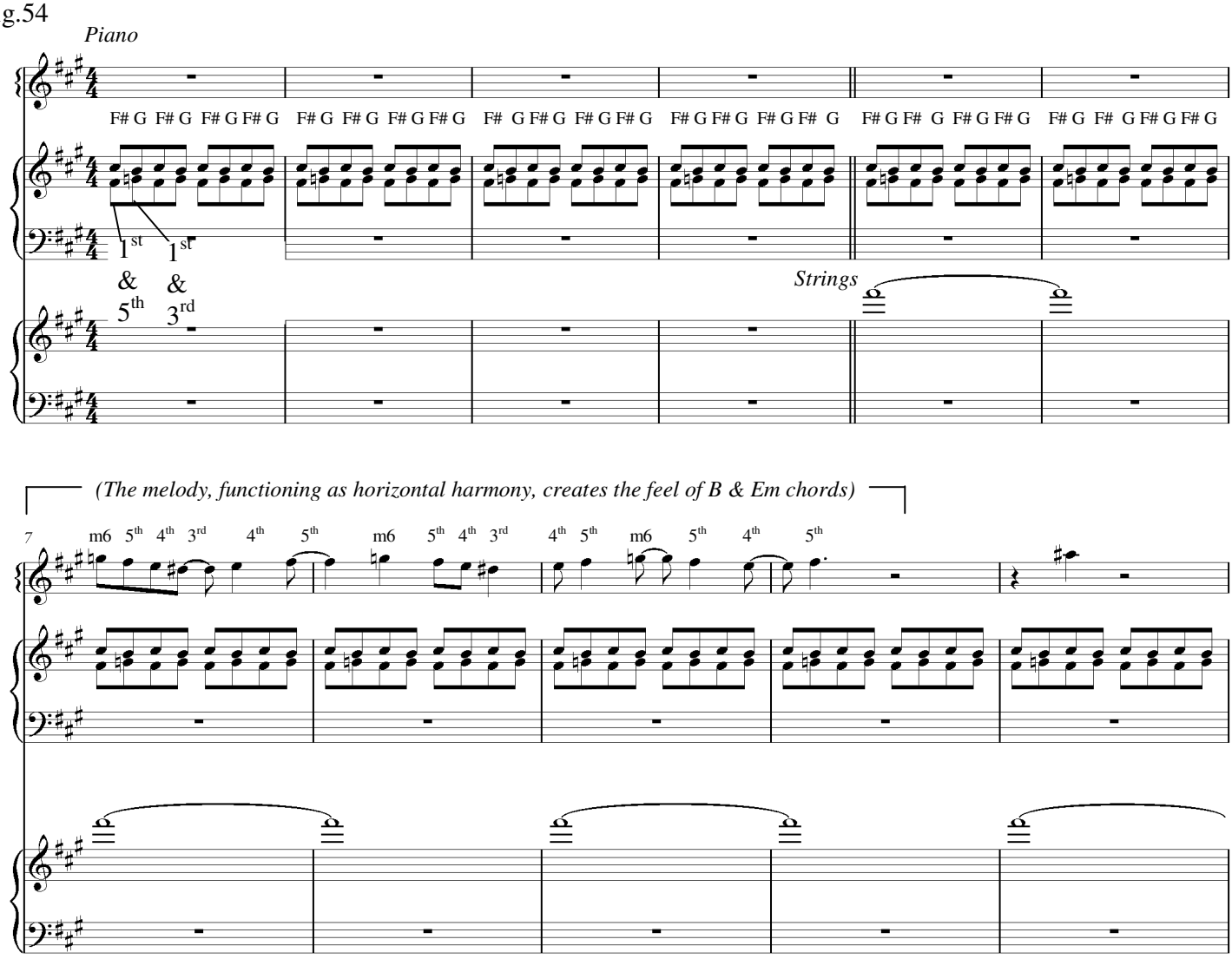
In bar three the line italicizes the 3rd of the chord, placing it at the bottom and top of the arpeggio. The 3rd is a defining interval and exposing it in this way enriches the emotion of the chord.

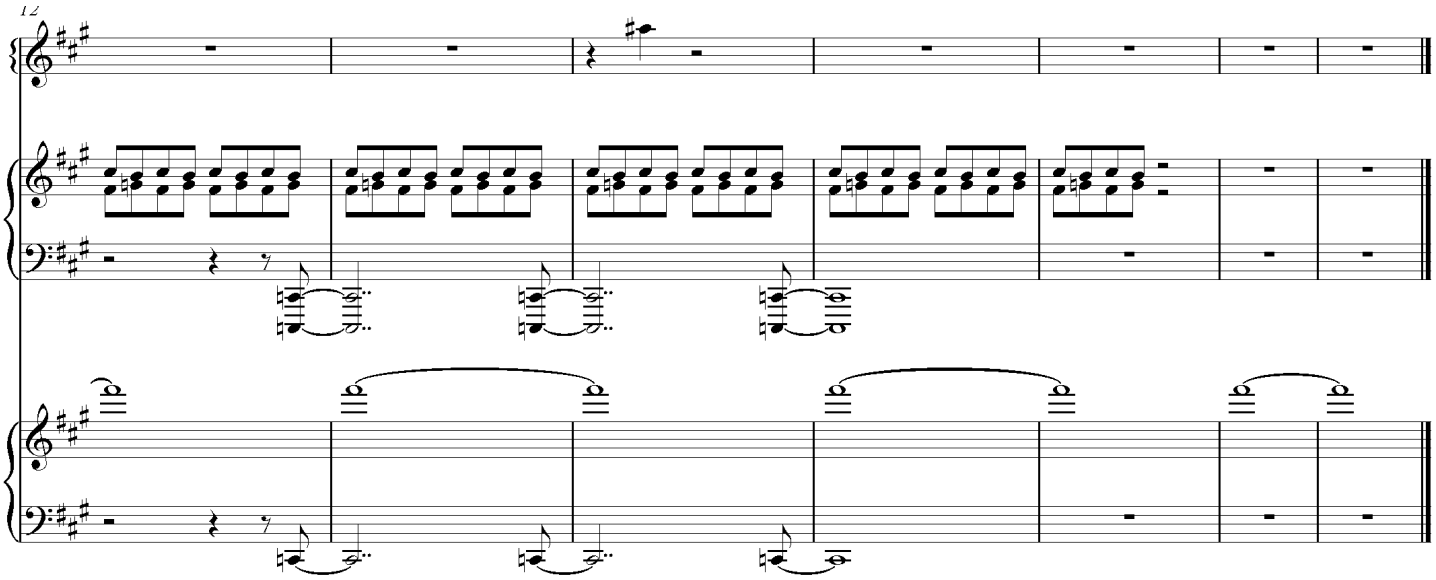
THE OIL FACTOR *Fritz Heede*

The Oil Factor is a 200 documentary narrated by Ed Asner. The documentary analyzes global events since the 9/11 terrorist attacks from an unconventional untraditional perspective examining the reasons, aspects and motives of the Iraq war and the direction of US foreign policy. The music for the intro to this documentary creates an unsettling sense of urgency right from the start. The opening credit roll is set to music and also features audio of a speech on the 'war on terror' by George Bush. But for the music one would assume Bush's words to be taken at face value, but the addition of Fritz Heede's haunting music satirizes and mocks Bush's words. The contrary motion quaver piano line drifts rapidly in and out of harmonic ambiguity. The first grouping of F# and C# offer an F# chord minus any 3rd, creating a stark sense of bareness. The next note grouping - G and B - represent the 1st and 3rd of the G chord but the pace is too fast for listeners to rationalise one chord as being stark and ambiguous and the other being definite, so they are left with no proper sense of key centre. This is one of the characteristics which make this piece so effective. The separate consistent rhythmic motion and the sense of harmonic contrary motion make the piece quite mesmerising and hypnotic.

The Oil Factor

Fig.54



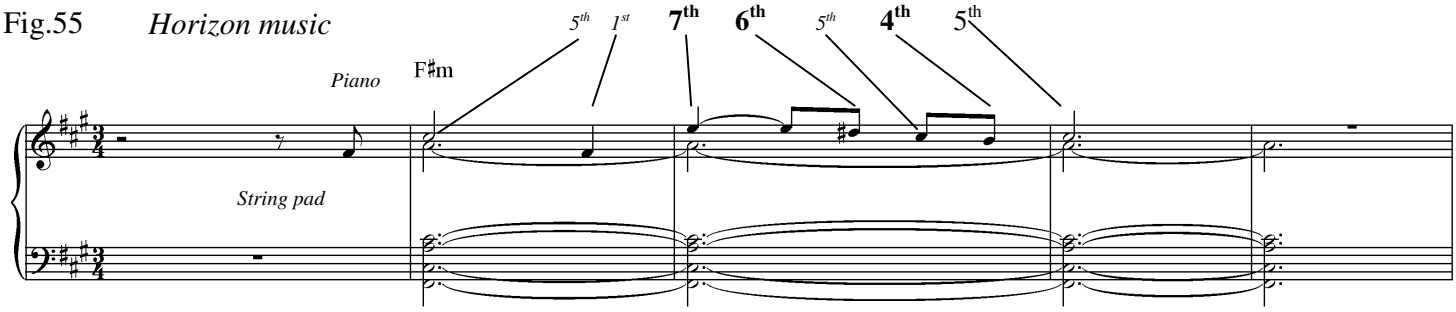


When the distinctly middle eastern-sounding piano melody enters on bar seven the chords implied by the melody are Em and B, which run consecutive to the quaver harmonies underneath (F#/C# and G/B). In bar eleven the singular A# melody note brings us solidly back to the F# and G context after which on bar fourteen a low C on piano appears, offering polytonality. The two issues which lend this piece the abstract qualities which so define it are polytonality and the hypnotic 'ticking clock' feel created by the initial piano accompaniment, which is rhythmically repetitive but which floats rapidly in and out of different key centres. The listener doesn't get chance to 'settle' which adds to the sense of urgency.

HORIZON *David Lowe*

David Lowe's post-1999 BBC news themes did so much to help rebrand the media of the 21st century. He also composed this small piece for the *Horizon* documentary series, which is so brief, succinct and concise that it almost functions as a sonic logo rather than a theme. It is used as the signature music behind the visual 'Horizon' logo, which is accompanied by the phrase 'pure science, sheer drama' and normally comes at the outset of the documentary.

Fig.55 *Horizon music*

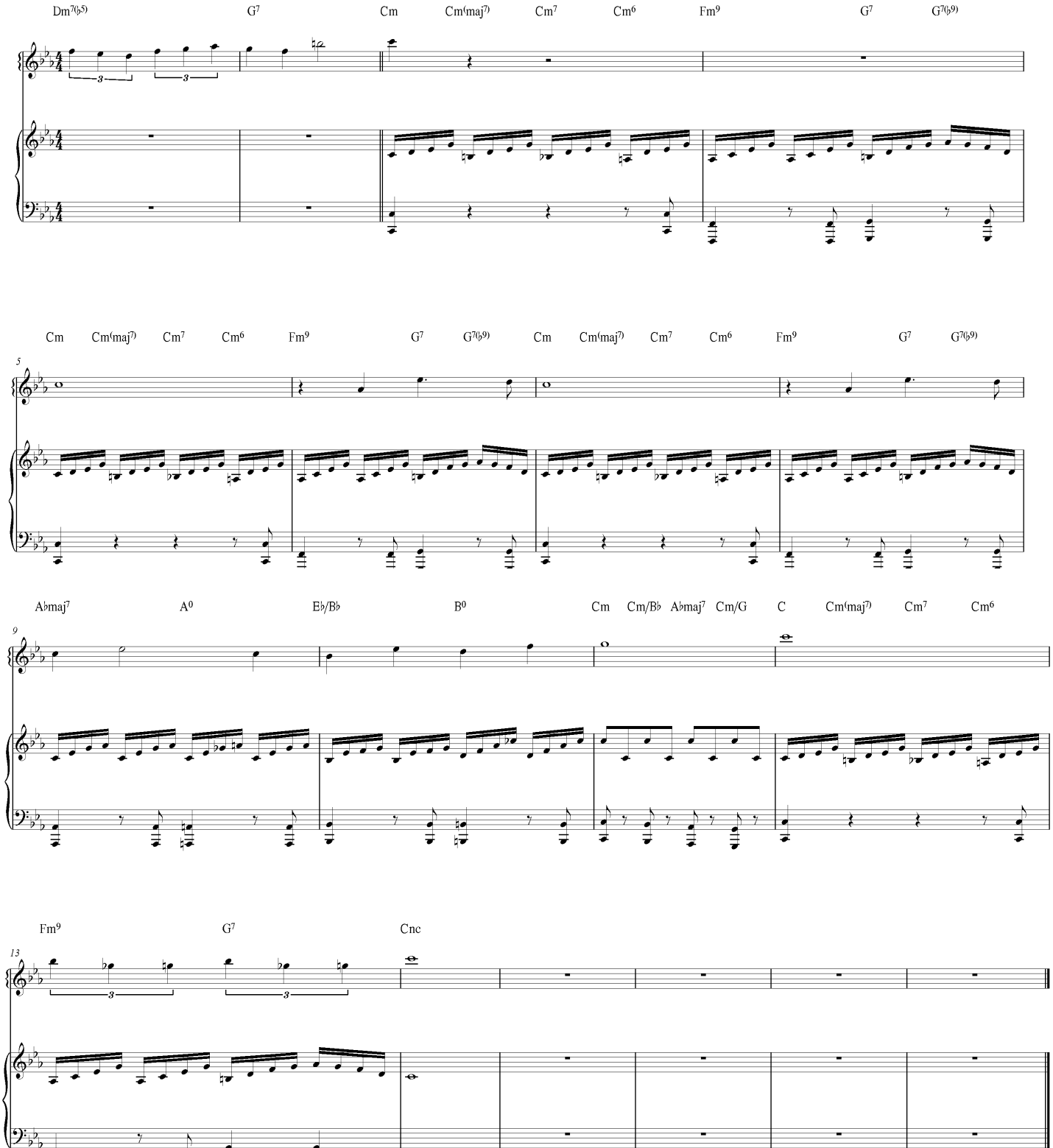


The piece is distinctive, colourful and descriptive. The slightly dreamy ambient lower pad textures are partly responsible but if we examine the intervals there is a slight modal feel created by the use of the maj6th over the minor chord. The melodic line features a noticeable 7th leap from the F# to the E (end of bar two into bar three) which draws our attention. The combination of 6th (D#) and 4th (B) do hint very slightly at a 'dreamy' polyphonic context, being *also* the 3rd and root of a B chord.

THE ANDREW MARR SHOW *Debbie Wiseman*

One of the more interesting, evocative and captivating themes to accompany a current affairs show in recent years is Debbie Wiseman's theme for *The Andrew Marr Show*, a Sunday morning magazine show which interviews major political figures and discusses important issues of the day but with a curiously 'easy like a Sunday morning' vibe which juxtaposes the seriousness of the news with a distinct element of middle-class 'cool'. This wonderfully tongue-in-cheek theme encapsulates both the seriousness of the subjects often under discussion and the playful 'cool' visual introduction, which shows Marr on his way to the television studio in a classic car clutching a bunch of Sunday Newspapers. If a Latte could be a current affairs show, this would be it.

Fig.56 *Audio: The Andrew Marr Show Theme*



The point, as ever, is that the music is key in creating the context in which we rationalise the show and its combination of 'serious' and 'cool' narratives. So how does Debbie Wiseman do it?

The semiquavers that run throughout create a distinct whiff of Baroque; the urgency of the string line underscores the urgency, seriousness and drama involved in the lofty debates and issues of the day. The first note of each group of four semiquavers in bars three, five and seven ascend and include the root, maj7, 7^{th} and $maj6^{th}$. The maj7 and maj6 intervals in context of the minor chord which is clearly implied, gives the line an overt and melodramatic almost *Poirot*-esque feel. The piece is bookended by a jazz-style soprano sax phrase, exaggerated and overstated by the laid-back style of the crotchet triplets. The sax theme itself has an endearing laziness to it which underscores the supposed 'cool' and 'hip' pop journalism.

Another separate line in this excellently crafted piece is the bass line, which has its own contours; its own journey. This is particularly effective in bar nine and ten where the chord sequence goes from Abmaj7 to A^{O} to Eb/Bb to B^{O} - probably the most unashamedly melodramatic and harmonically Thespian section of the piece.

All lines in this piece (sax, bass, string semiquavers) are so strong harmonically and stylistically that they would probably function quite well on their own. This is an extremely vivid and communicative piece which perfectly suits the style and underlying themes of power, youth, sophistication, 'cool' and spectacle.

Chapter 2
THE SUBTLETIES, INTRICACIES AND EXQUISITE TENSIONS OF TV MUSIC

In this chapter we will examine the music for some notable television dramas and documentaries, all of which have, to varying degrees, subtlety, introspection and /or elements of minimalism as hallmarks of their identity. This needn't always mean 'quiet and closed-off' but that the composers in each case have scored the films using a degree of restraint and sensitivity. In all cases the music has been pivotal in defining the projects commercially and creatively. The television dramas and documentaries analysed are:

Lost (Michael Giacchano) *The Waking Dead* (Bear McCreary) *Midnight Man* (Ben Bartlett) *Twin Peaks* (Angelo Badalmenti) *Silent Witness* (John Harle) *Inspector Morse* (Barrington Pheloung) *Deep Water* (Harry Escott) *Inspector Lynley Mysteries* (Andy Price) *Ten Days to War* (Daniel Pemberton) *Red Riding* (Adrian Johnston) *Dexter* (Rolf Kent and Daniel Licht)

Lost *Michael Giacchano*

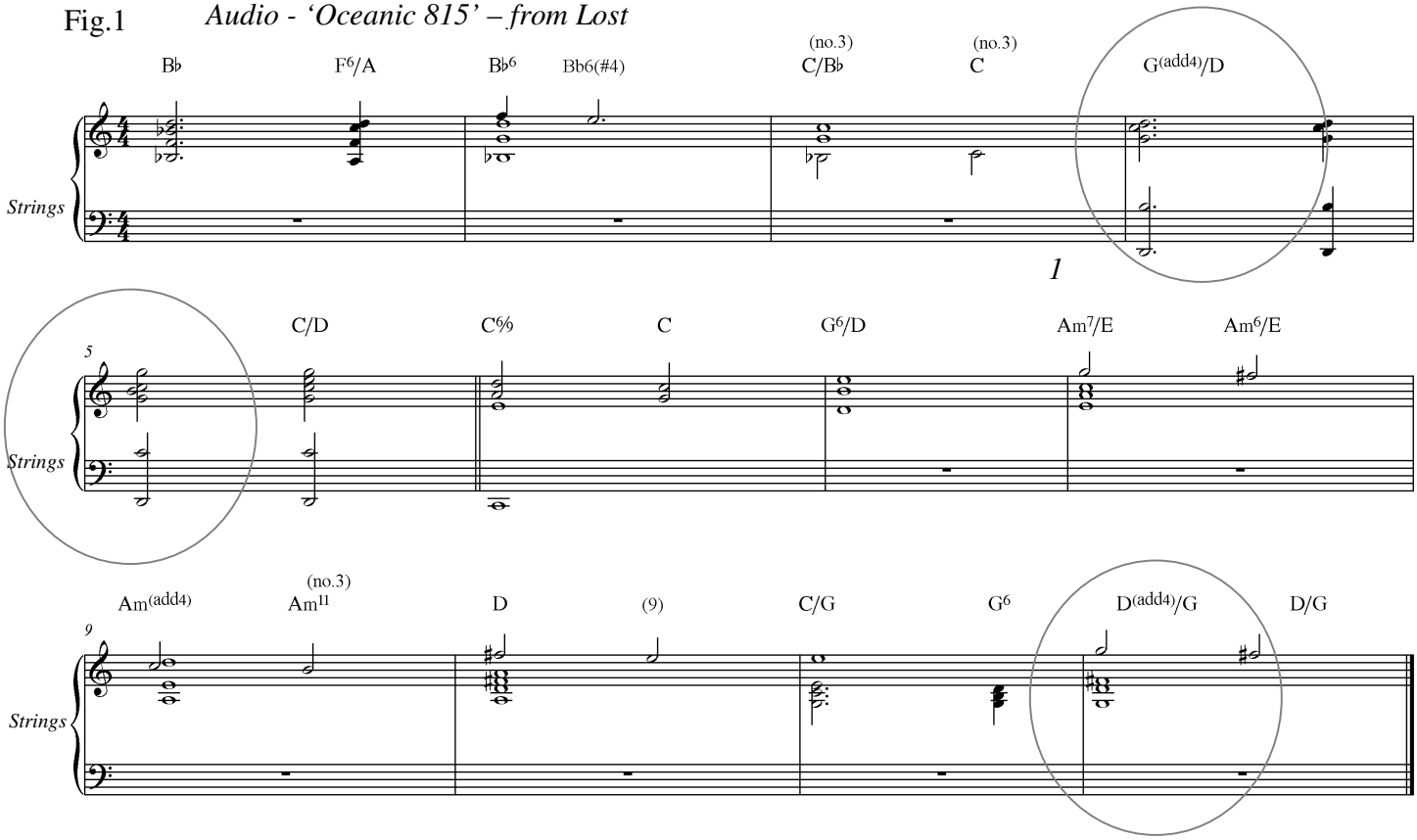
Lost is an iconic and successful television series which aired between 2004 and 2010. It follows the lives of survivors of a plane crash on a mysterious tropical island somewhere in the South Pacific. Episodes typically feature a storyline on the island as well as a secondary storyline from another point in a character's life. The enormously evocative and expressive music for *Lost* is striking both in terms of its style and its narrative function. "I wanted something that was not typical for what you would get on a show about characters stranded on an island", says composer Giacchano. The orchestra consisted of a string orchestra, 4 trombones, harp, piano and a large and varied percussion ensemble. Giacchano approached the show differently to the others he had worked on, including *Alias,* for JJ Abrahams, who was also the producer of *Lost*. Rather than watch the show, get the feel for the episode and write accordingly, he decided to literally write for the scenes he thought needed music, as they came. This meant that the music was allowed to develop eclectically and without the usual presumption of an overall 'musical arc', approach or structure. This is an important point because it shows that when traditional methods of scoring are altered it can encourage a different approach from composers. Some of the most effective music for film has been written when traditional approaches were replaced with methods which allowed more freedom of interpretation from composers; James Newton Howard's music for M.Night Shayamalan early films have been often vivid and imaginative and yet much of the music is written not to the film but as an emotional commentary on the narrative of the film, based on conversations with the director, supported by occasional storyboards. Equally but differently, Danny Elfman's early scores which so defined his writing style, were written without reference to a temp track. Originality needs the freedom to express itself.

Inevitably if composers aren't writing to picture but are instead creating an emotional response to the story, their music is perhaps sometimes more able to express subtlety and introspection.In the examples this chapter analyses there are sections where music literally defines the film; in *Lost* whilst the music might not be as obviously up-front as perhaps music from other shows, it fuses with the pictures in such a natural way that without it, *Lost* would be quite literally lost. Certainly in terms of music *Lost* is probably one of the more notable television dramas in many years.

Numerous themes play throughout *Lost* and some cues accompany several scenes, characters or situations which need a common musical dimension. Transcribed below are several of the particularly emotional themes, which are analysed in terms of how they communicate specific sentiment, emotion and drama. All the pieces below function as emotional 'lighting conductors' and are pivotal in articulating feelings of sadness, love, grief and sorrow. The important aspect of Giacchano's music is that, for the most part, the music doesn't always play the science fiction; instead it italicizes the humanity and the intrigue – something which sometimes only music can do. Although *Lost* may qualify as science fiction on a surface level the subtext is clearly about humanity, the human spirit and perhaps ultimately about belief.

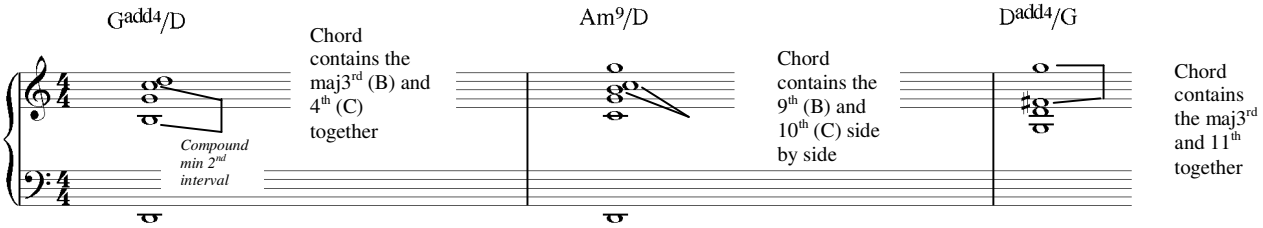
There are times in filmed drama when words and moving pictures are too obvious, too certain, lacking the vagaries and subtleties that music offers. To most people although music is something which provokes an emotional response within them, equally it is something which remains impenetrable in terms of understanding how it is conceived and constructed and why it affects them. For most people harmony lacks a visual dimension and therefore a concrete method of interpreting how it creates emotion within us. It *suggests but does not state*. But its lack of certainty is also its great strength. The lack of absolute irrefutable concrete meaning allows listeners the luxury of subtle personal interpretation and then enables them to interact with the moving pictures on a different and perhaps deeper level.

Fig.1 *Audio - 'Oceanic 815' – from Lost*



If we examine what aspects of fig.1 ('Oceanic 815') subtly create emotion, we are left once again examining the harmonic interactions. The piece contains restrained tensions and nuances which subtly distort the 'normal' flow of harmony. Put simply, all the circled chords in fig.1 have intervals not normally found together in the same chord; normally when the 4th is present it is a 'sus4', meaning that it *replaces* the 3rd. In the examples below (which come from bars four, five and twelve of fig.1) we have an *add4*, which means the 4th is added in *addition* to the maj3rd, which creates the specific tension.

Fig.2



The beauty of these harmonies is that they are not extreme; they communicate a sense of subtle disturbance and insecurity but are not wholly dissonant. They exist inside the cracks of what music offers, between absolute dissonance and absolute consonance. There are similar subtle harmonic ambiguities at work in the piece in fig.3 ('Credit where credit's due').

Fig.3 *Audio - 'Credit where credit's due'– from Lost*

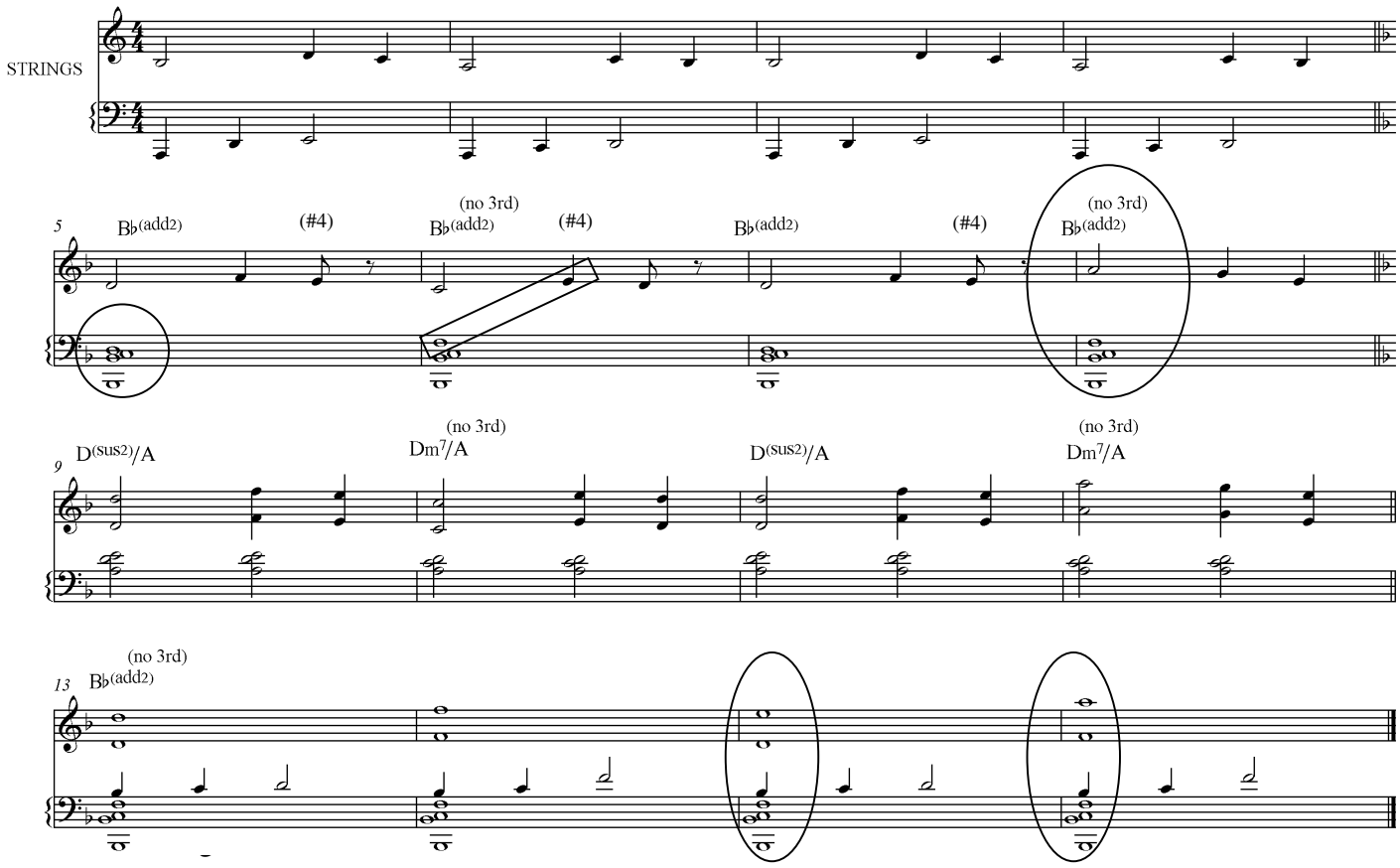


Fig.4 *'Gluttony' from 'Seven' – Howard Shore*

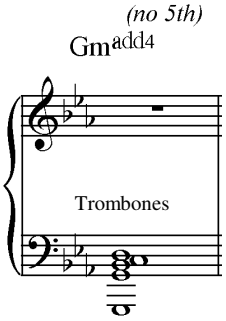


Fig.4 (left) features one of the defining chords from Howard Shore's score to the film *Seven*. It works partly due to the low dense 'crunchy' sonic qualities of close harmonies – particularly the 3rd, 4th and 5th together – and partly because of the instrumentation (trombones) on which the chord is articulated. This is a similar approach to the Michael Giacchano example in bar five of fig.3.

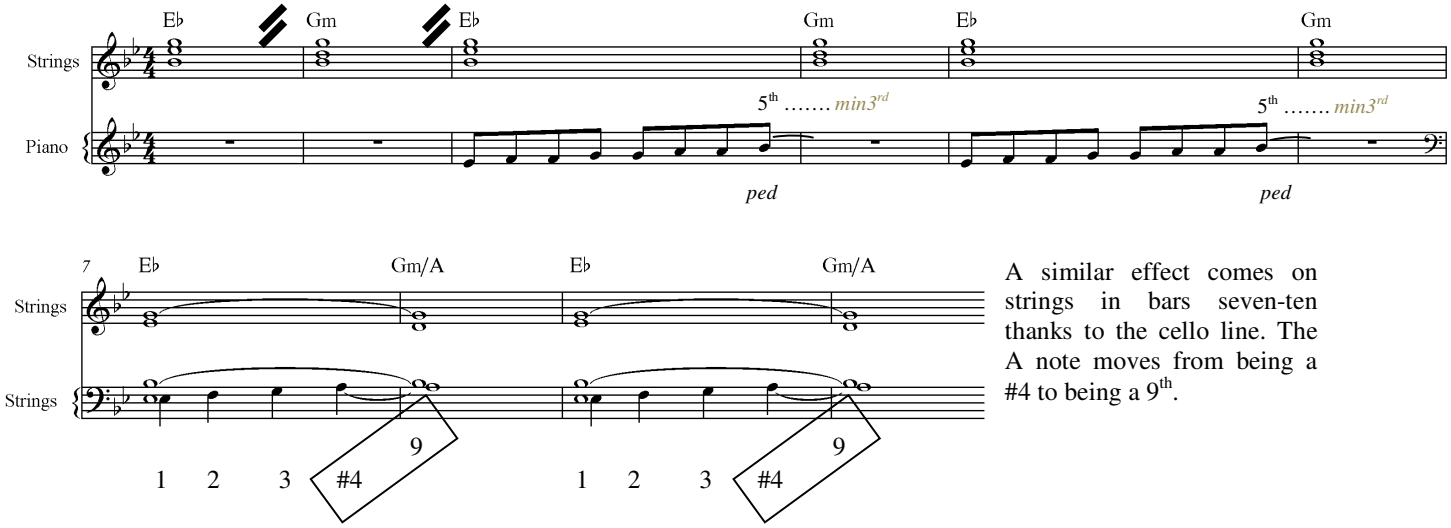
The second highlighted chord in fig.3 (bar six) features a chord of Bb (no 3rd) with a sharpened 4th (E) in the top strings. The #4 is italicised because of the lack of what we call the 'defining interval' (3rd); also the distance between the low F and the E above is itself a maj7, which, when featured out of context, contains some mild tension.

The third highlighted chord (bar eight, fig.3) creates distinctive harmonic colour through a combination of, again, the low and lumpy Bb and C (add2), the lack of a 3rd and, notably the addition of a maj7th (A). This is a microcosm of what Giacchano succeeds in doing throughout *Lost*; the placing of extensions without their normal traditional harmonic companions. The maj7th would normally appear in a chord which possesses the major 3rd; it is the maj3rd which makes the maj7th what it is: Taking the 3rd out changes the dynamic. The highlighted chord in bar fifteen creates tension by virtue of the lumpy harmony in the bottom register voicing and the interval of a 9th which separates the major 3rd (D) from the #11 (E).

Audio - 'Locked out again' – from Lost

This piece contains some interesting harmonic characteristics, delivered with the deft touch of simple orchestration. Elsewhere in the book we discuss the issue of a transition between one chord and the next having *three* separate contexts (the initial chord, the destination chord and the relationship between them; the almost sonority between two chords). With this in mind look at the piano line in bars three and five; the last note of Bb is left in mid-air and the memory of it bleeds into the next bar thanks to the heavy pedal use in the recording. The Bb changes from being a 5th of the Eb to a min3rd of the Gm chord; this transition seems unusually acute, probably because of the excessive sonority created by the pedal, because the destination interval is a 3rd and because it's not the note we hear but the memory of it. Whenever we're affected by music invariably it's our interpretation and understanding which steers our reaction and informs our judgment. But when we're affected by notes whose intervallic context changes during the dissipation of the note itself, this is bound to be a more acutely interpretative experience.
Also, the lead up to the Bb contains the #4 (A) which help garner a sense of subtle mystery.

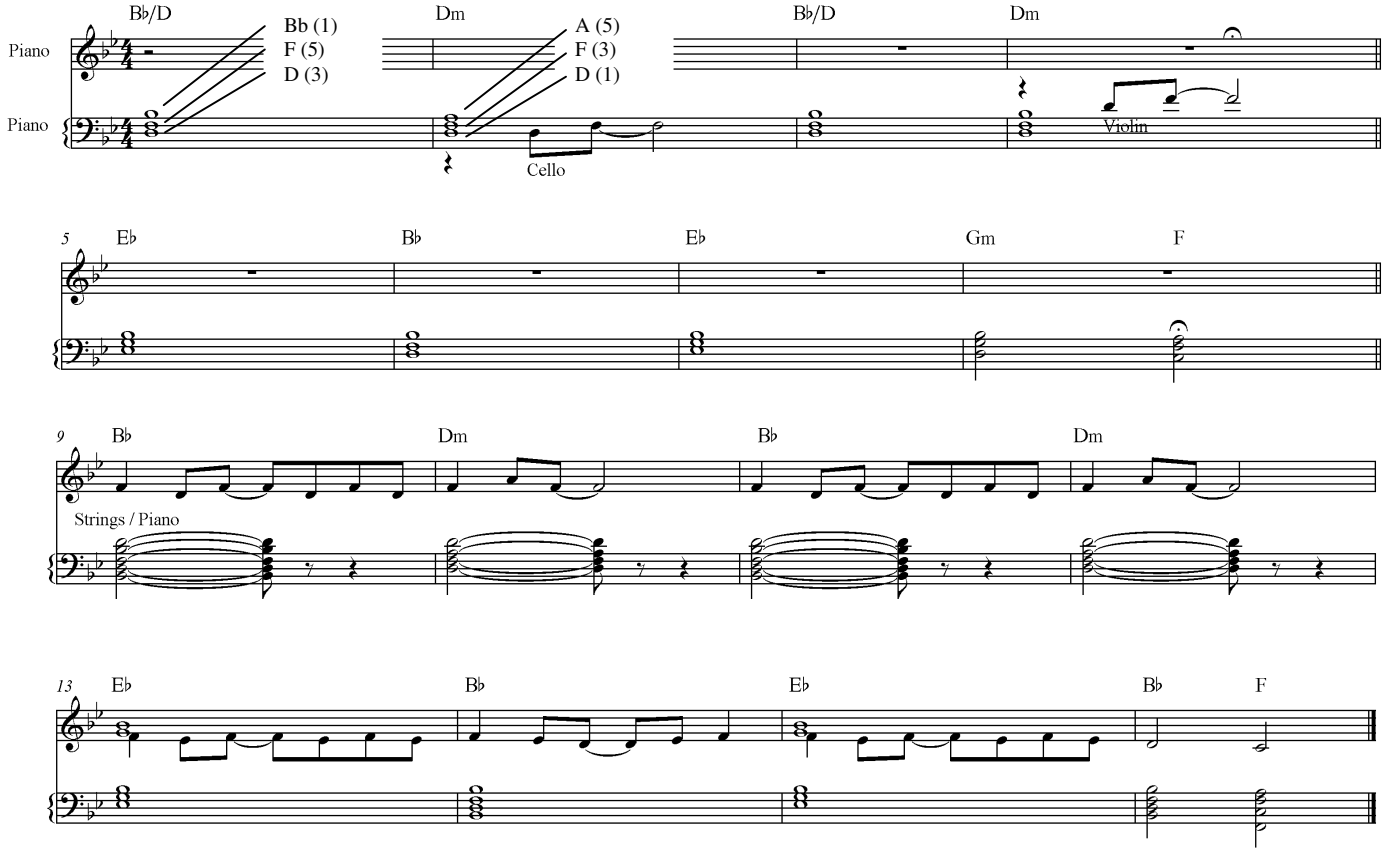
Fig.5



A similar effect comes on strings in bars seven-ten thanks to the cello line. The A note moves from being a #4 to being a 9th.

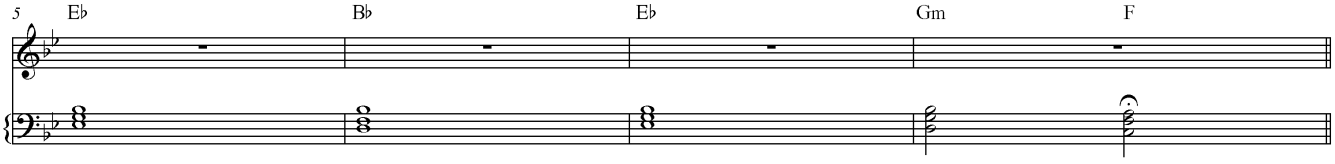
If there is a 'signature piece' out of the multitude of music from this series, *Life and Death* is probably it. This piece comes numerous times thrughout the series and never fails to grace the moving pictures and narrative, despite its simplicity. Giacchano understands the principal of 'graceful sonority' between chords, and nowhere is this more obvious than *Life and Death.* The introductory chords of Bb/D and Dm work beautifully together; they are two different chords *but* - especially because of the inverted Bb – only one note actually moves; the other two simply change what they *mean.* The subtle interchange of intervallic context is the hallmark of the opening four bars.

Fig.6 *Audio - 'Life and Death' – from Lost*



Moving to the second group of four bars of fog.6 (which is scored out separately, fig.7), we notice from the audio track how the heavily pedalled piano is crucial in articulating the emotion in these chords and making the ordinary relationship between them more acute. There is a crossover point between each harmonic manoeuvre where the harmonies become blurred and seem to exist as one. Underneath the four-bar sequence in fig.7 graphics have been added to accentuate and italicise this.

Fig.7



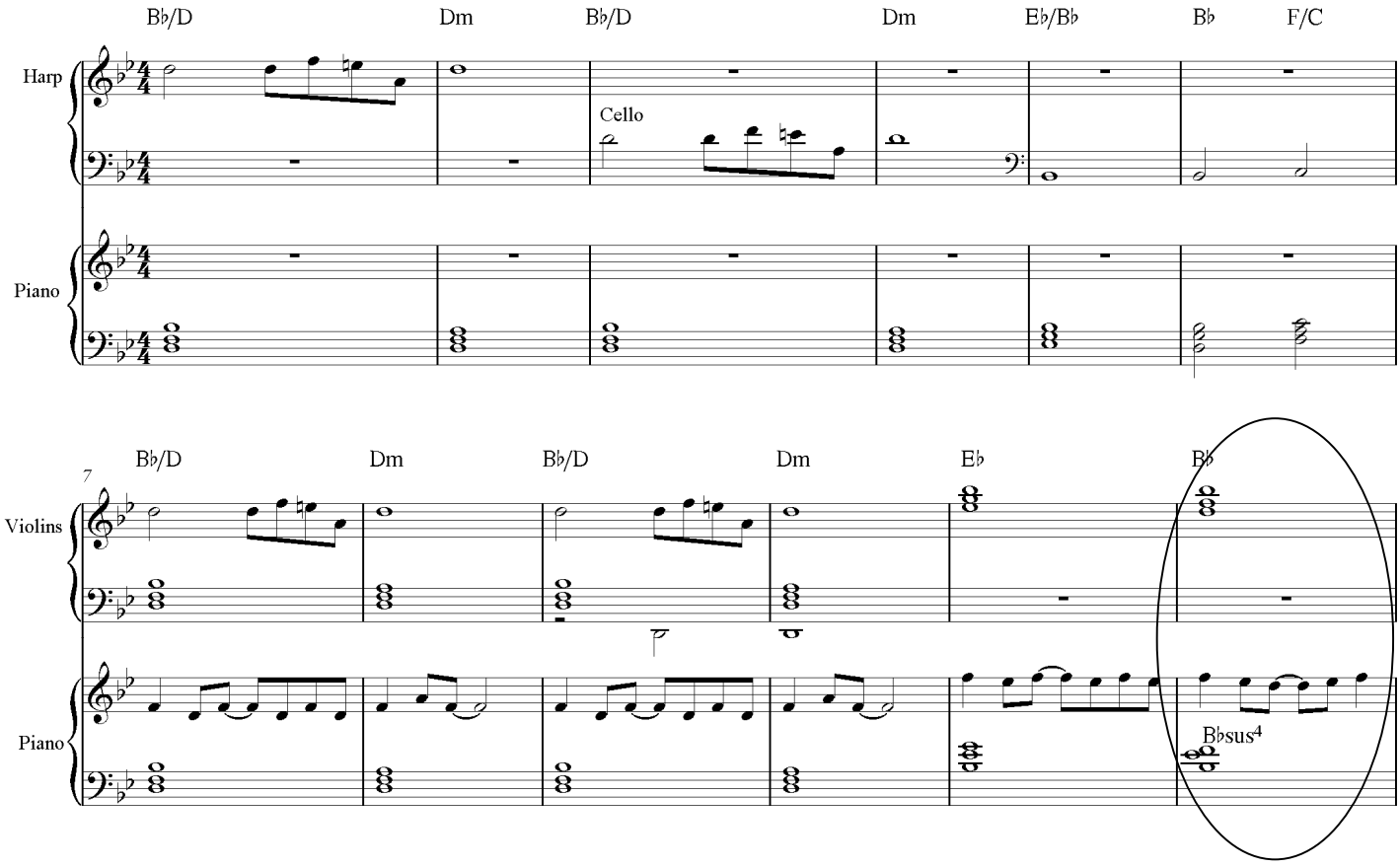
The whiter shaded areas represent where the chord dissipates and merges with the new chord; the darker areas are where the chord becomes established and uncluttered by the previous harmony. These seemingly small observations go to the heart of why a piece like this communicates so effortlessly. Giacchano's music for *Lost* is full of sections which allow the listener *in*; the subtle ambiguities allow for personal interpretation, much more so than music which faithfully delivers itself on a plate and demands to be digested.

Charlie's death scene (3rd season finale)

In one particularly memorable and poignant scene, *Lost* character Charlie locks an airtight door to save his friend Desmond from drowning with him. Before he drowns Charlie writes a message on his hand which is pertinent to the story. For a few moments we see him underwater looking calm and serene; the sound design is pulled down, leaving the music to tell the story and relay the tragedy and sadness.

Of particular interest, again, is the interplay between Bb/D and Dm. Also of interest is the addition of the #4 (E - bars three, seven and nine) and the slight tension in bar twelve between the Bb chord on high string and Bbsus4 in the piano left hand. These slight, almost imperceptible harmonic elements help the piece develop a real emotional tension. What is also endearing and appealing is that the strings in particular are recorded close-up and with not as much reverb as you might get with the normal Hollywood 'gloss' applied. This tight 'chamber' sound helps the music communicate.

Fig.8 *Charlie's Death Scene*



There's no place like home (ending scene) from *Lost*

Thousands of theories to explain the narrative of *Lost* have been expounded but what seems beyond debate is that the island was in fact some kind of limbo where the passengers from flight 815 were already dead but their souls were battling the forces of heaven and hell to determine their final destination. Whatever the final truth of *Lost*, it is probably the most strikingly original television drama in a generation. It has raised the bar in terms of what television drama can be and the original way it can interpret and articulate fictional drama. The music for the final scene is itself one of the most vividly and emotionally scored of the entire series. The sheer magnitude of emotion the music manages to garner, in conjunction with the pictures, makes it an interesting experience. As is often the case, seemingly simplistic music merely *seems* that way; in order to find most of the emotion in the music we have to look beyond what is immediately apparent and obvious in terms of instrumental textures and look to the subtle relationships and harmonic interplay. The transcription in fig.9 is from the section of the final episode as Jack walks through the door of the Church with his father to join the rest of his friends from the island. This enormously traumatic and emotional scene is accompanied by music which italicises the sadness and happiness of the events featured in their lives; Giacchano embraces the passion, exhilaration, excitement, heartbreak, grief and sorrow of the entire events in *Lost* and distils them into one poignant and touching musical commentary which speaks louder, more vividly and more passionately than the pictures alone are capable of.

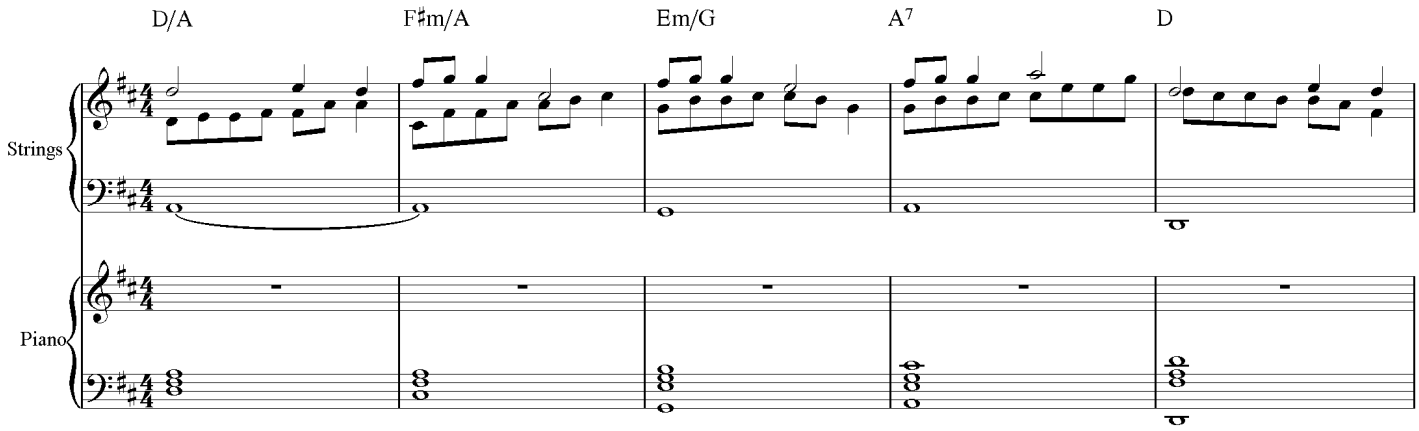
The relationships and harmonic dynamics created by the counterpoint contained in the strings work well throughout. Although there are accompanying harmonies and inversions created by the piano and cello, the two-part string lines on the top stave work well in implying the harmonic flavour: bar one contains an extremely descriptive ascending scalic line which hits the root, 2nd, 3rd and 5th which create, horizontally, a chord of D. In bar two the lower string line hits the 5th, root, 3rd, 4th and 5th of an implied F#m chord.

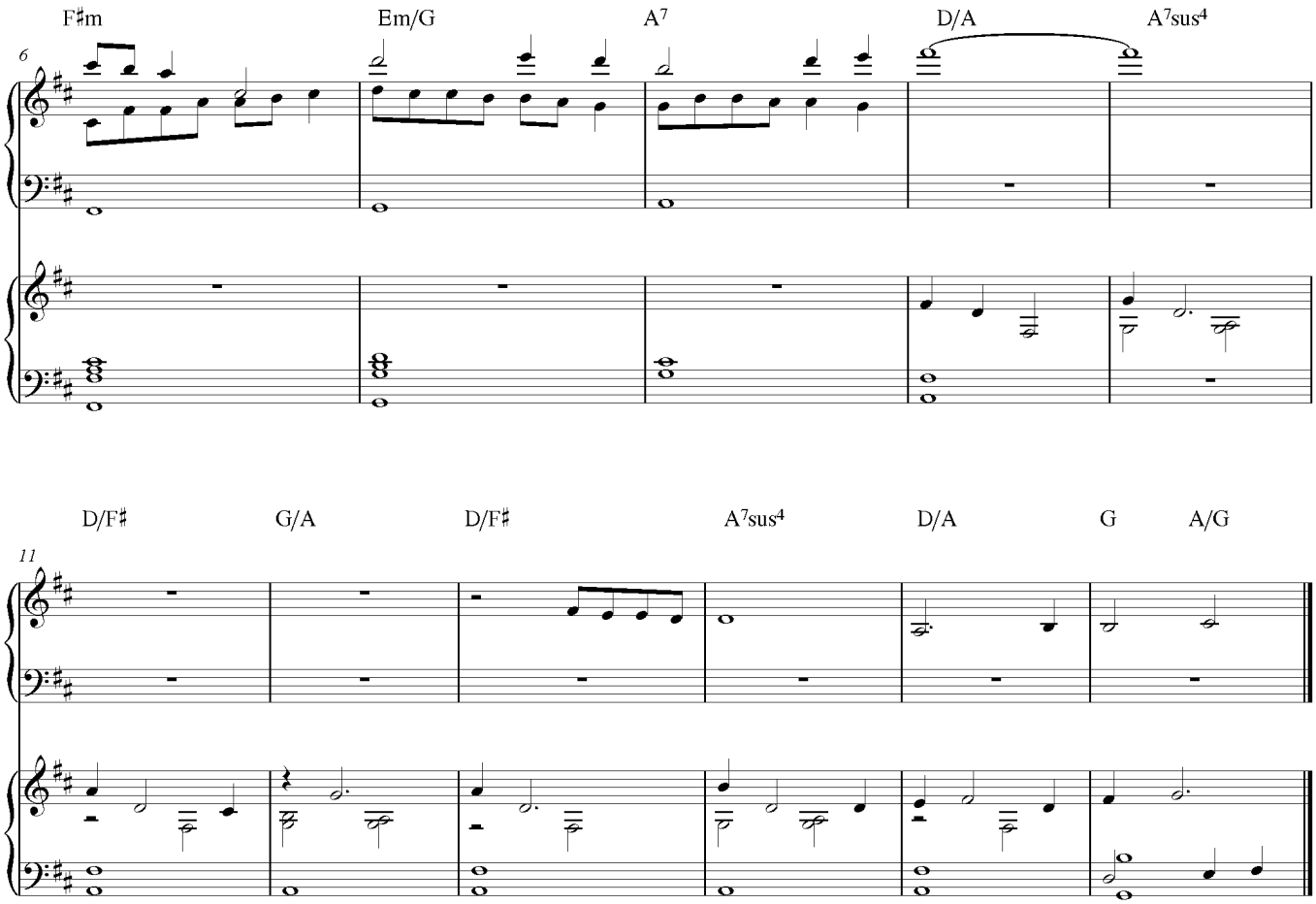
The lines in other bars similarly provide horizontal, suggestive harmony. These are the type of lines we described in other chapters as 'bulletproof melody lines' – e.g. ones which are harmonically self-supporting. But Giacchano also introduces blurring contradictory elements which provide beautiful tension, such as the G note (top stave, bar two) which creates almost an 'A7' feel over what is an F#m chord.

Similarly in bar three the maj6th (C# in context of the Em chord) works well in creating tension. A feeling of cascading harmony and tension is created in bar five as the descending line hits the C# (maj7th), briefly colliding with the top string note of D.

Audio - There's no place like home (from 'Lost')

Fig.9





Where the piano takes the lead in bar nine, the lone high F# string creates tension when it is tied to bar eleven, where it functions as a high 6th over an A7sus4 chord (clashing with the G note in the piano). Giacchano provides some extremely effective and sparse piano writing; the left hand A and F# notes in bar nine are not stated in bar ten but the 'memory' of them successfully 'bleeds over', implying the A7sus4 chord in bar ten, which the physical notes alone don't fully suggest. Also there are small, innocuous touches which cause the tiniest elements of tension, such as the G and A right-hand notes in bar ten, twelve and fourteen. What Giacchano mostly utilises in his more sensitive writing for *Lost* is the relationship and the dynamic between the actual stated chord and the unstated but implied or inferred chord. Often this happens when notes from one chord are left hanging and the memory of them interacts with the stated notes in the next chord or bar. This mixture of what is actually there and what we merely assume or presume is there is at the centre of how and why sometimes seemingly simple chord sequences work so well; because they're only simple individually. Collectively they assume a subtle abstract complexion; a kind of dreamlike state. The juxtaposition of actuality and imagination, of reality and dreams, mirrors perfectly the show itself.

The Walking Dead *Bear McCreary*

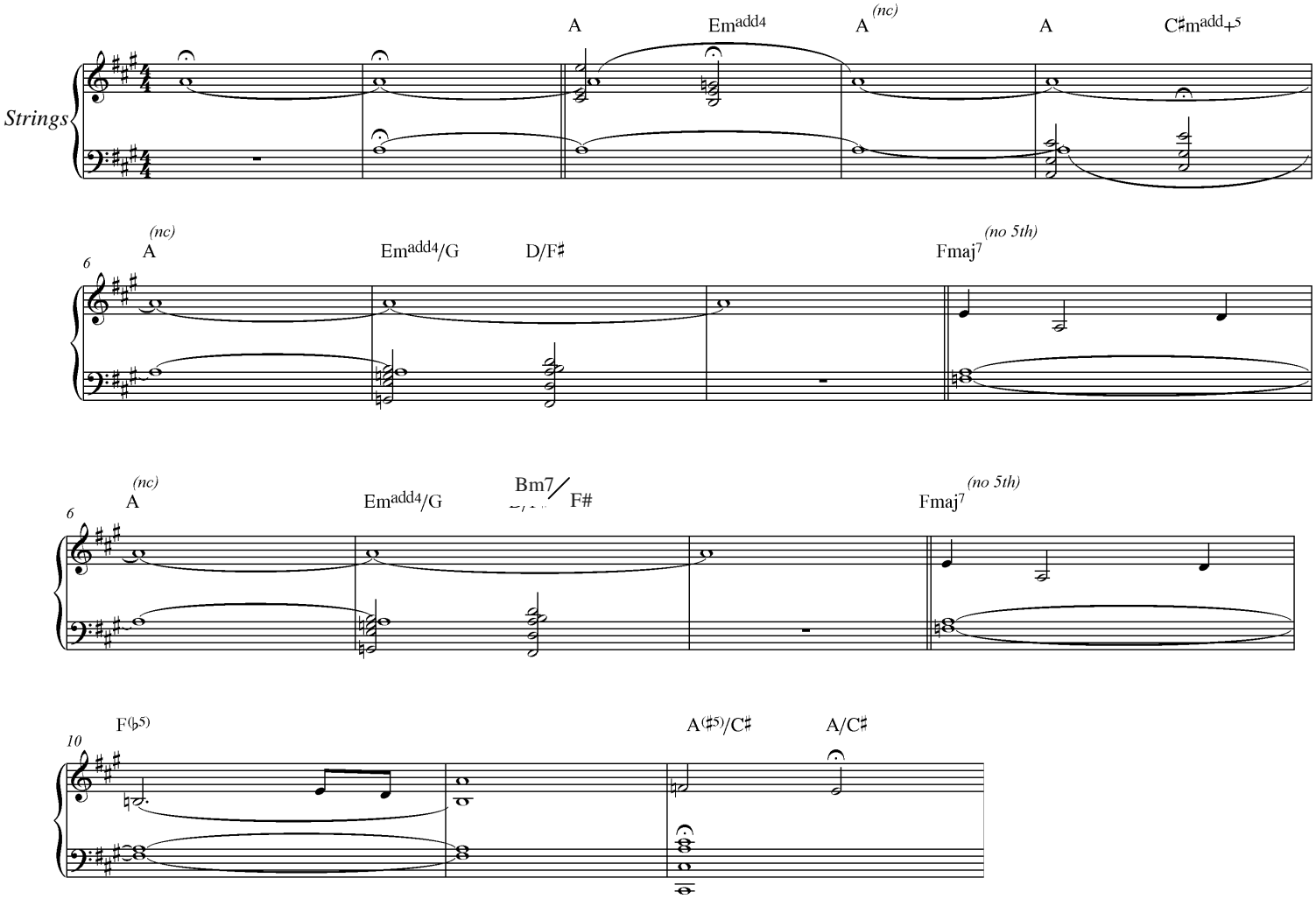
The Walking Dead is based on a small group of survivors dealing with the aftermath of a zombie apocalypse. The survivors travel across a devastated America in search of fellow survivors and a new home. Heralded as one of the most realistic zombie dramatisations ever made, the series chronicles humanity's descent into chaos.

The group faces hostility from fellow survivors who are focused on their own survival now that the structures of society have collapsed. Focussing more on the relationships and humanity than the 'gore', in some ways the show attempts to appropriate the narrative approach of *Lost* by italicising the subtext. The incidental music, by Bear McCreary, uses subtlety, minimalism, sparse harmonic voicing and other abstractions to become the musical voice of this production. Like the television series *Lost*, the music has become part of the fabric of the narrative and is often left to tell the story of tragedy and human suffering on its own. Because of music's great ability to be distilled in more of a subtle, individual basis by television drama viewers, its inclusion in this series goes way beyond accompaniment; music is one of *The Walking Dead's* great storytelling devices.

The excerpt below (fig.10) from a scene where one of the central characters surveys a house looking for friends and family is typical of the kind of emotive and effective incidental scoring for *The Walking Dead.* The string parts in bar three play the chord sequence A to Em but this sequence is blurred by the constant 'A' notes at the bottom and top, which precede the chord itself.

Normally when a 4th features in a chord it replaces the min/maj 3rd interval. The *added* 4ths in the Em chord serve to shave the edges off the certainty of the chord and make it subtly less distinctive and a little more prone to interpretation. Bar five contains a similar harmonic manoeuvre; again, normally a chord either has a 5th or a raised 5th. In the case of a minor chord, you would normally never see a 5th *and* a min6th together in the same chord. This goes against the kind of persuasive tradition that is still prevalent today; to put the 5th and min6th side by side would be to blur the harmonies in a way which, under normal circumstances, is never required. For the purposes of subtle TV drama, however, it works well.

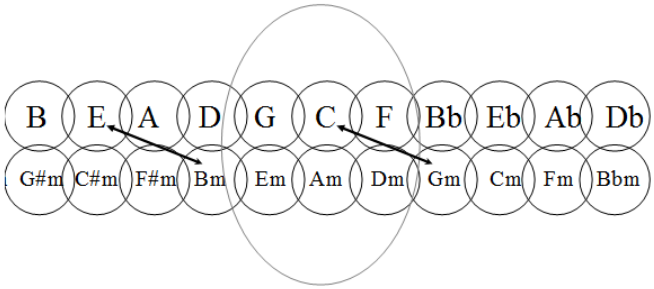
Fig.10 *The Waking Dead, Episode 1, Series 1 – 00.24.15*



The chord in bar ten, coming as it does from an Fmaj7 the bar before, would be rationalised in its written form as an F(b5). However, when listening to it, it has the dramatic 'whiff' of a G/F – and yet if this is the case there is no 1st or 5th to the G chord within that interpretation. I do not make these points merely to indulge in theoretical debate; this is important because the point is not just that there are two ways of *theoretically* rationalising a chord, but that there are two ways of *hearing* it. This kind of potential openness in aural cognition is quite rare. Normally chords come zipped up with one definitive visual and aural interpretation. Some of the chords we find on *The Walking Dead* and other dramas are evocative because they allow for the kind of interpretation listeners are not normally used to. Many of the harmonic identifiers tend to be implied rather than stated. One has to understand theory to *know* this but anyone can benefit from this kind of writing. In the case of the chord in bar ten of fig.10, the reason it 'sounds' like a G/F is partly down to the surrounding harmonic terrain, particularly the chord in bar nine, which frames our interpretation of bar ten. If we look to the final two chords of fig.10 we can again see the benefit of taking a chord and subtly subverting it. This is one of the most powerful harmonic devices that film score composers buy into. When the first chord (of bar twelve) is played we have trouble rationalising it but when the subsequent chord hits, we realise how simple the first one was. Why did we have trouble in aurally rationalising the first chord of the final bar? - because it has two possible realities. Taken on face value it is as described in the transcription – an A with a sharpened 5th over C# bass. But if we look at the 'sharpened 5th' (the F note) and the bottom note of the chord (the C#) we can see that they represent, in another context, the root and maj 3rd of a Db chord. This mixing of harmonic messages is a key factor in the abstract, dreamlike nature of the music.

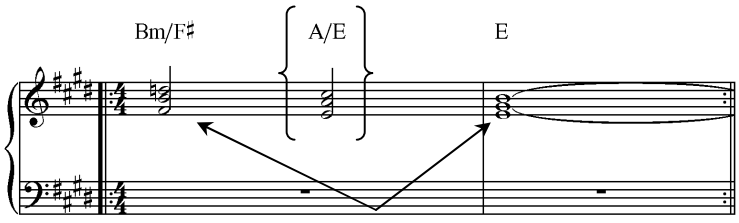
In other chapters we examined some iconic chord changes, one of which we called the 'sci-fi' chord change (below) where the tonic chord moves to a minor version of chord VI (C to Gm, D to Am, E to Bm etc).

Fig.11



A slightly punctuated version of this dramatic chord change is used in the segment below, which comes during a typically pensive and dramatic period of no dialogue where the music leads the narrative.

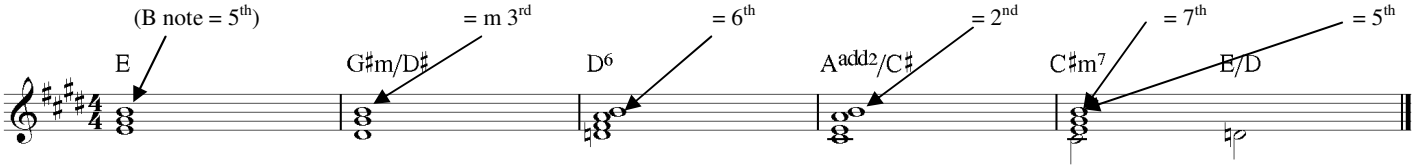
Fig.12 *The Waking Dead, Episode 1, Series 1 – 00.44.08*



Looking at the two-bar sequence in fig.12 we can see that in context of the *sci-fi* chord change the middle chord is a transitory passing chord. What we respond to is the first and last chord in the sequence.

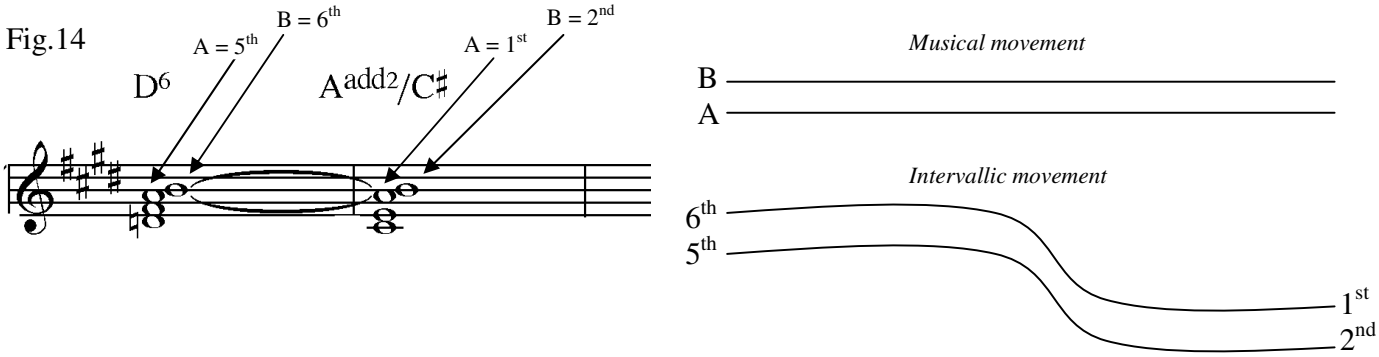
Sometimes what seems simple only *seems* that way. If we look below (fig.13) at how the excerpt in fig.12 continues and evolves we can appreciate how the subtle complexities of seemingly simple chords communicate the vastness of their combined potential. The top note of each chord is a B note but if we examine the intervallic change in this one note it goes some way to explaining how simplicity isn't always simple.

Fig.13 *The Waking Dead, Episode 1, Series 1 - 00.44.50*



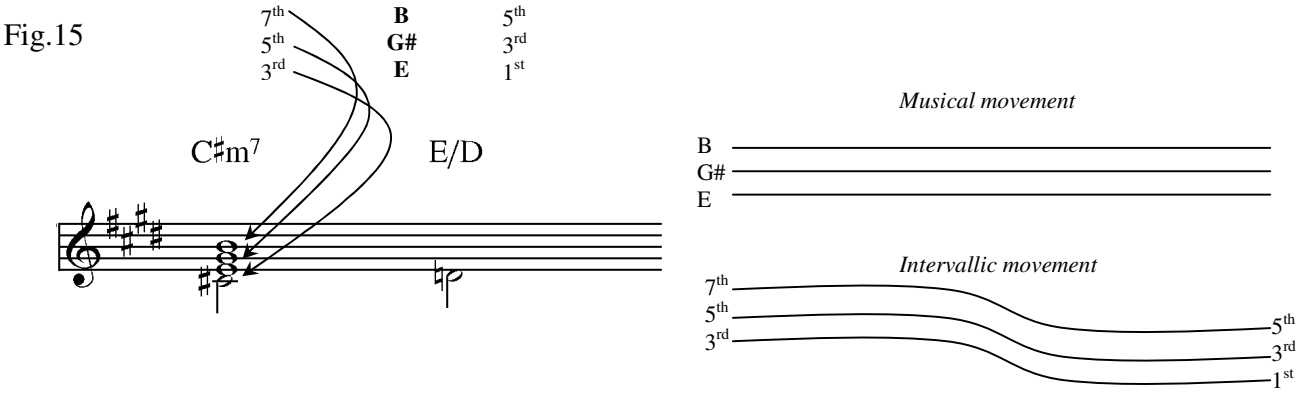
If we look below (fig.14) we can see to what degree the intervallic context moves, rather than the actual notes, in bars three and four of fig.13

Fig.14



Also the root of the first chord is at the *bottom* of the voicing, whereas the bottom of the second chord is the *inverted 3rd*. These tiny subtleties are at the heart of how and why music communicates; the brain works to rationalise the subtle harmonic weightings. Looking at the final bar of fig.13 in detail (below), we can see that the top three notes remain the same throughout the change but their intervallic reality changes. We therefore have two contradictory realities; what the note *is* and what it *means*.

Fig.15



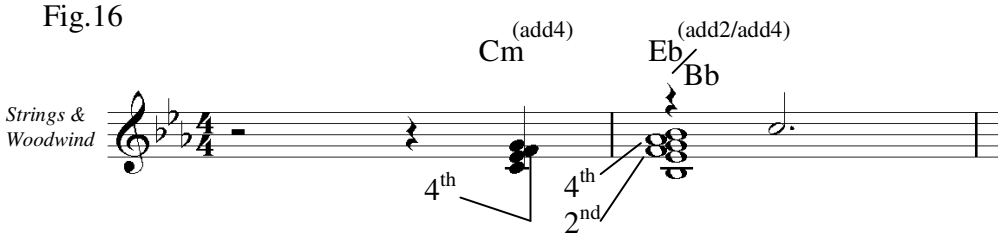
The chord change in fig.15 is achieved by the movement of just one note. Musical movement and intervallic context are two completely different realities and it is the combination of these two realities that continues to govern harmony and explain why so few notes can manage to continually *sound different.*

An excellent but brief example of the kind of abstraction Bear McCreary creates in his incidental underscoring is transcribed below. This plays just after a poignant and sad conversation between two characters sat by a lake discussing their situation. Subtle chord manoeuvres are often said to 'state but not judge'; usually music is nearly always judgemental in that it has an identity; a character, an opinion. It has an identity which displays its emotion.

The music below is so dense and so subtly devoid of clarity that it possesses no absolute definable emotional colour. Music which subtly hides its identity just enough for the pictures to breathe is often the most effective; the pictures (which, in the case below, show a camera sweep over a lake) actually become part of the music.

The Waking Dead, Episode 3, Series 1 – 00.03.33

Fig.16



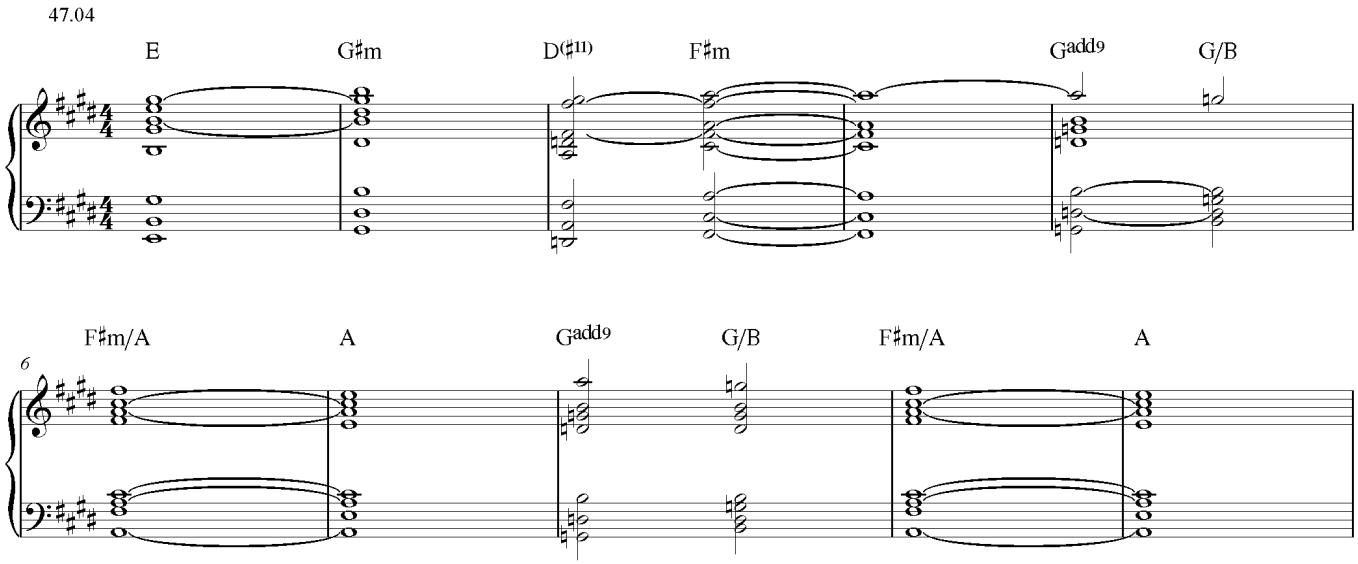
This disfiguring of the chords, in particular the Eb chord, is key to it 'losing its identity'.

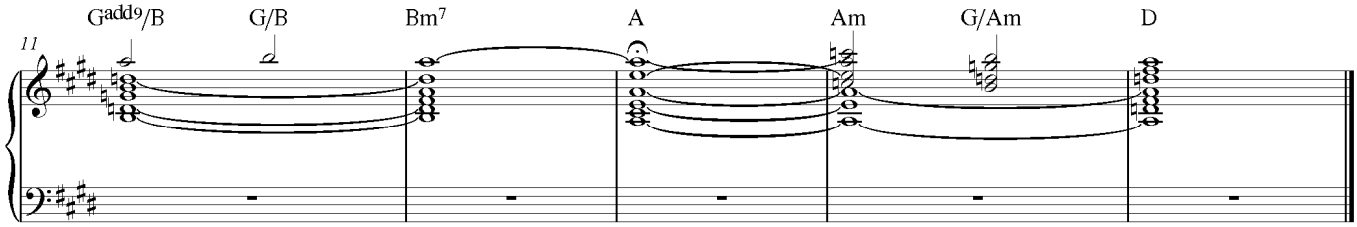
A 4th interval normally substitutes the 3rd, thus the chord's identity changes. But if the 3rd and 4th intervals exist together two identities collide and essentially almost cancel each other out. The chord's identity becomes blurred and inconsistent. In terms of colour, it becomes 'whitewashed'. This is what I mean by 'music which states but doesn't judge'.

The following transcription, from the first episode, plays over scenes where zombies are shot dead by survivors. These scenes, which are visually quite graphic and gruesome, are completely transformed with the music. The 'sound' (an ethereal, ambient, heavily reverbed sample/synth sound) is crucial to the communicative effect of the music. Earlier we discussed the issue of a transition between one chord and the next having three separate contexts (the initial chord, the destination chord and the relationship between them; the almost infinitesimal sonority between two chords). With this in mind, due to the style and production of the sound there is a great deal of overlap which helps create a dream-like mesmerizing ethereal effect. Add to this the usual issue of certain notes being common to both chords (but having different intervallic contexts) and we have a potent, communicative mixture.

The Waking Dead, Episode 1, Series 1 – 00.47.05

Fig.17

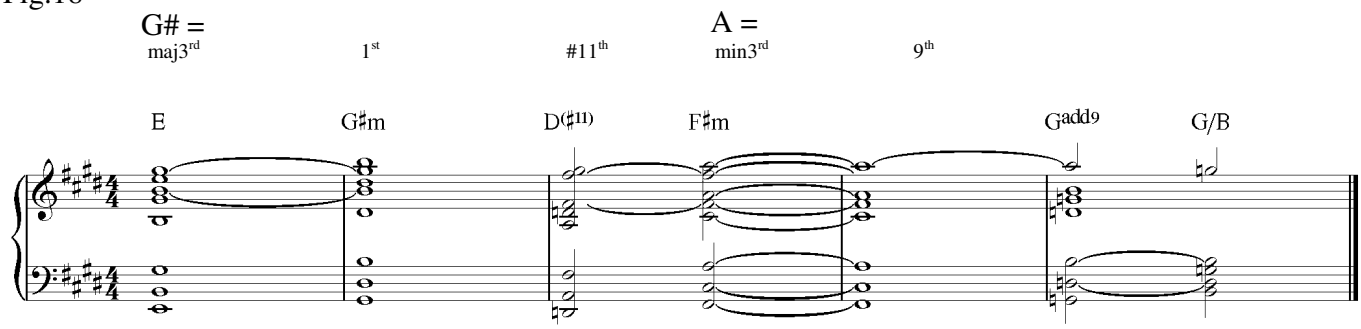




The music above completely transforms the scene; it extends sympathy and compassion to the zombies. Zombies are contextualised in a completely different way in this show; the music transforms them from monsters to victims. Part of what makes *The Walking Dead* so interesting is the way the music interprets the narrative.

If we look at the opening few bars of the piece again, we see there are a couple of notes whose intervallic context evolve from *primary* to *extension* intervals; the G# represents the maj3rd in bar one, the root in bar two and the #11 in bar three. This intervallic transformation is another one of the many distinct but subtle harmonic dynamics which guide the emotive power of this sequence. In addition the A note in bar four functions as a min3rd and evolves to a 9th in bar five.

Fig.18



Midnight Man *Ben Bartlett*

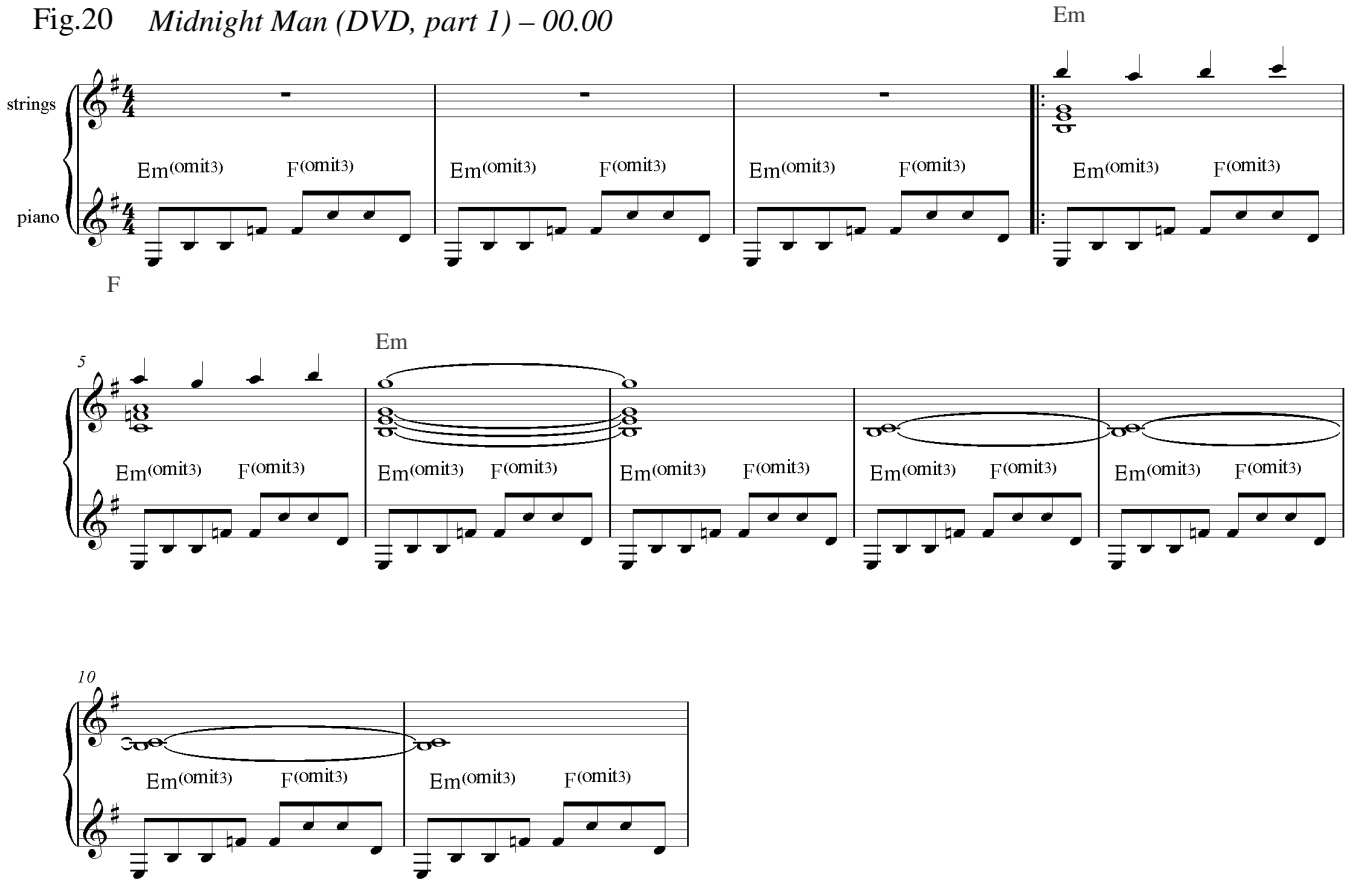
Midnight Man is a British television conspiracy thriller about an ex-investigative journalist who discovers an international plot involving government policy groups and international death squads. Written as a commentary on the 'War on Terror', it was reportedly influenced by films such as *Three Days of the Condor* and *The Conversation*. The main musical theme for the drama succeeds in reflecting a real sense fear, suspicion and obsession, things which are central to the story. How does it do this?

The theme is transcribed below (fig.19): first of all we have, once again, the issue of blurred harmony, this time created by the fusing interplay of the chords of Em and F. Each four-quaver arpegiated Em chords ends with an F note, which represents the strange and dissonant min2nd interval. Although three of the four quavers at the end of each bar lie within the chord of F with the D note representing the 6th, they cannot help but be heard in context of the previous Em chord, and in *that* context the F, C (x2) and D notes represent a min2nd, #4 and 7th. Neither of the chords is 'complete' in that they lack the defining maj or min 3rd that would have identified them, but they *do* both contain the structural pillars that are the root and 5th intervals. In the final analysis we cannot help but hear the two chords as one. This blurredness can provoke a number of emotions but on this occasion, given the pictures, it creates a mild sense of unease.

This is further proof that the picture always informs the final context of the music. Again, because of the lack of maj or min 3rd in either arpegiated chord, the intervals between each note tend to be quite wide (E to B = 5th, B to F = #4, F to C = 5th). Unlike clusters, which can create non-descript 'fuzzy' harmonies, the feeling of this piece is one of empty starkness.

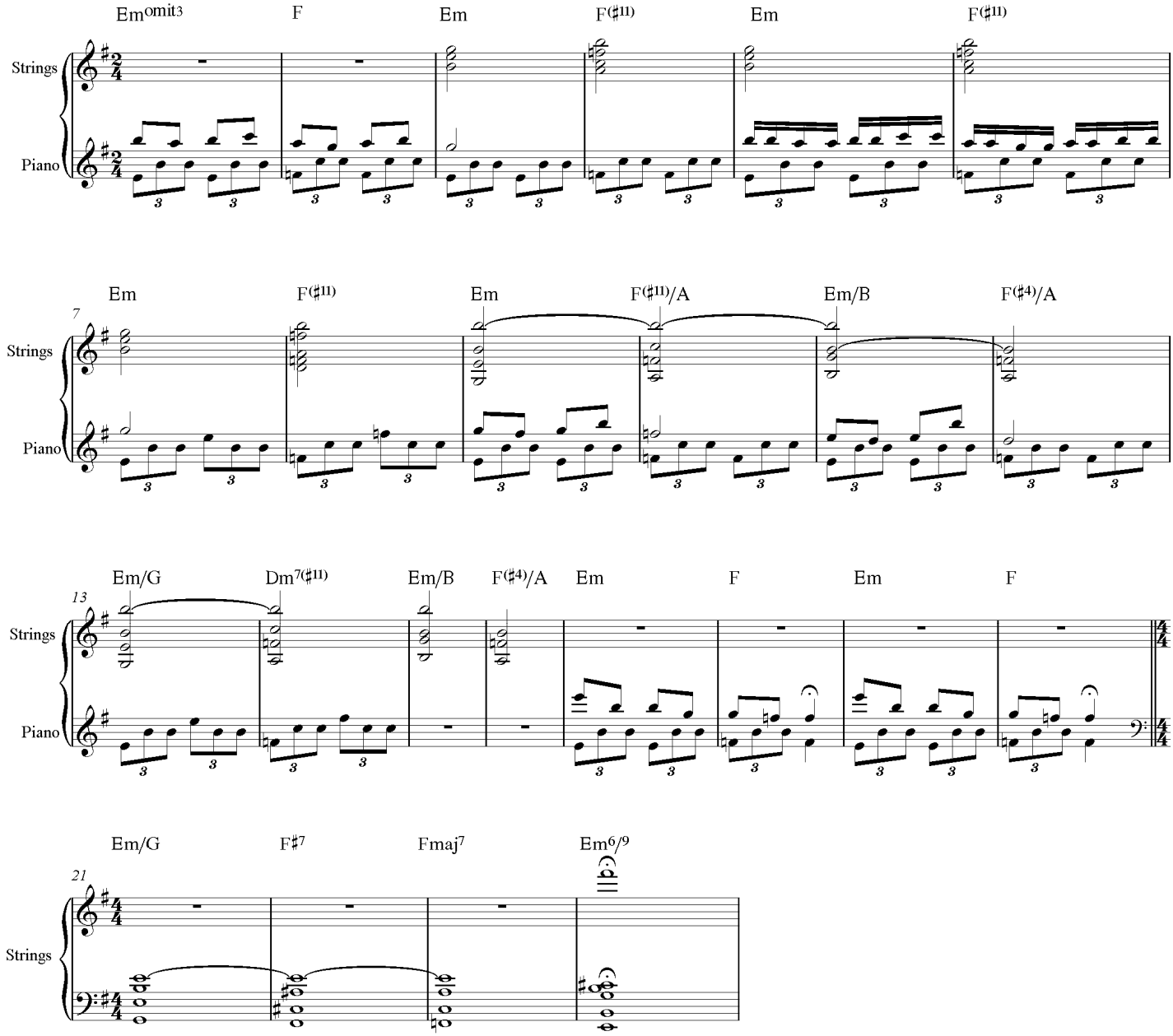
On top of all this, in bars three, four, five and six, the string chords (top stave) state 'straight' chords (Em, F, Em), which themselves react and 'fuse' with the arpegiated blurred chords underneath. The rather pedestrian 'lazy' string melody line accords the piece an overall sense of sleekness which detracts from the blurred harmonies underneath. In addition in bar six a synth horn line states the B and C notes - a dissonant min 2nd interval. All the issues mentioned work well to deliver a piece that succeeds in articulating a feeling of suspicion and even mild obsession.

Fig.20 *Midnight Man (DVD, part 1) – 00.00*



The first incidental cue to be examined comes about five minutes into the drama, just after the central character – a paranoid conspiracy theorist and former investigative journalist – is asked to pursue a discrete surveillance operation on a government minister. The conversation takes place, typically, in a seedy café late at night. The following musical transcription begins when the scene shifts to an 'establishing shot' of a local London skyline before settling on the inside of the character's apartment. The music captures the dark and paranoid narrative of the drama. The music is a major emotional identifier in the drama and this cue in particular comes numerous times in a series of different scenes.

Fig.21 *Midnight Man - Part 1 – 00.04.47*

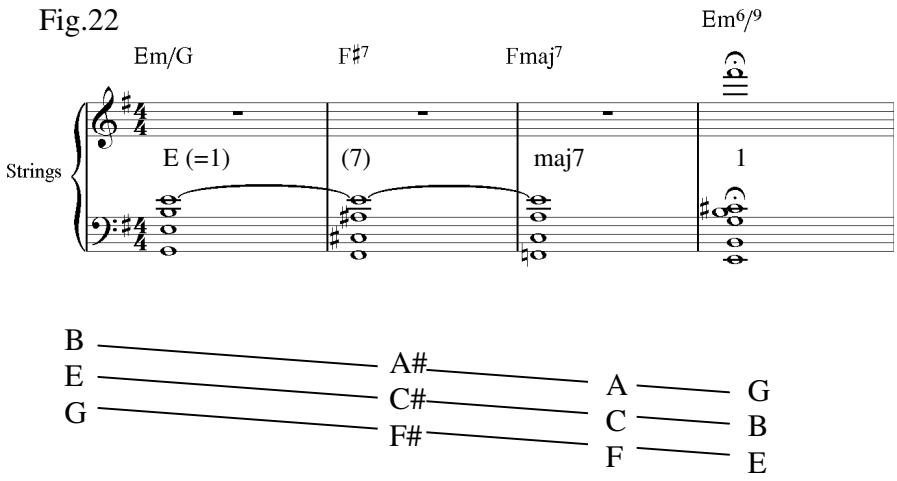


The first thing to highlight in the cue is the rhythmic piano interplay between the straight quavers and simultaneous left-hand *triplet* quavers underneath. This causes tensions which heighten the dramatic effect of the music, but aren't too confusing or disorientating to rationalise. In bar five the top piano line is put through an echo device which repeats each note; for ease of understanding I have transcribed them as semiquavers.

As in the title music we also have the harmonic interchange between Em and F. Almost every F chord contains a #11 (B). This is a tenuous but crucial link between the two chords because it repeatedly highlights an odd interval which adds drama.

The music for this television drama occasionally possesses elements of the kind of subtle sophistication found in James Bond-style harmony, an element accentuated and exaggerated by the string section. This is to be found in bars 21-24 of fig.21. In the drama this four-bar section (which is transcribed separately below, fig.22) appears in a scene where the journalist is sat in his car late at night taking pictures of a clandestine meeting with a long-range camera lens.

Fig.22



What also gives the sequence a little of the Bond-style 'sophistication' are the three chords preceding the minor 6/9. The interaction between the F#7 and Fmaj7 is crucial; going from a 7th chord to a maj7th chord a semitone below ensures that the 7th and the maj7th are the *same note*. This, together with the rest of the chord's classic evenly spaced voicing moving uniformly and chromatically down a semitone, is one of the things which contribute to the rich, sophisticated sound

Twin Peaks *Angelo Badalmenti*

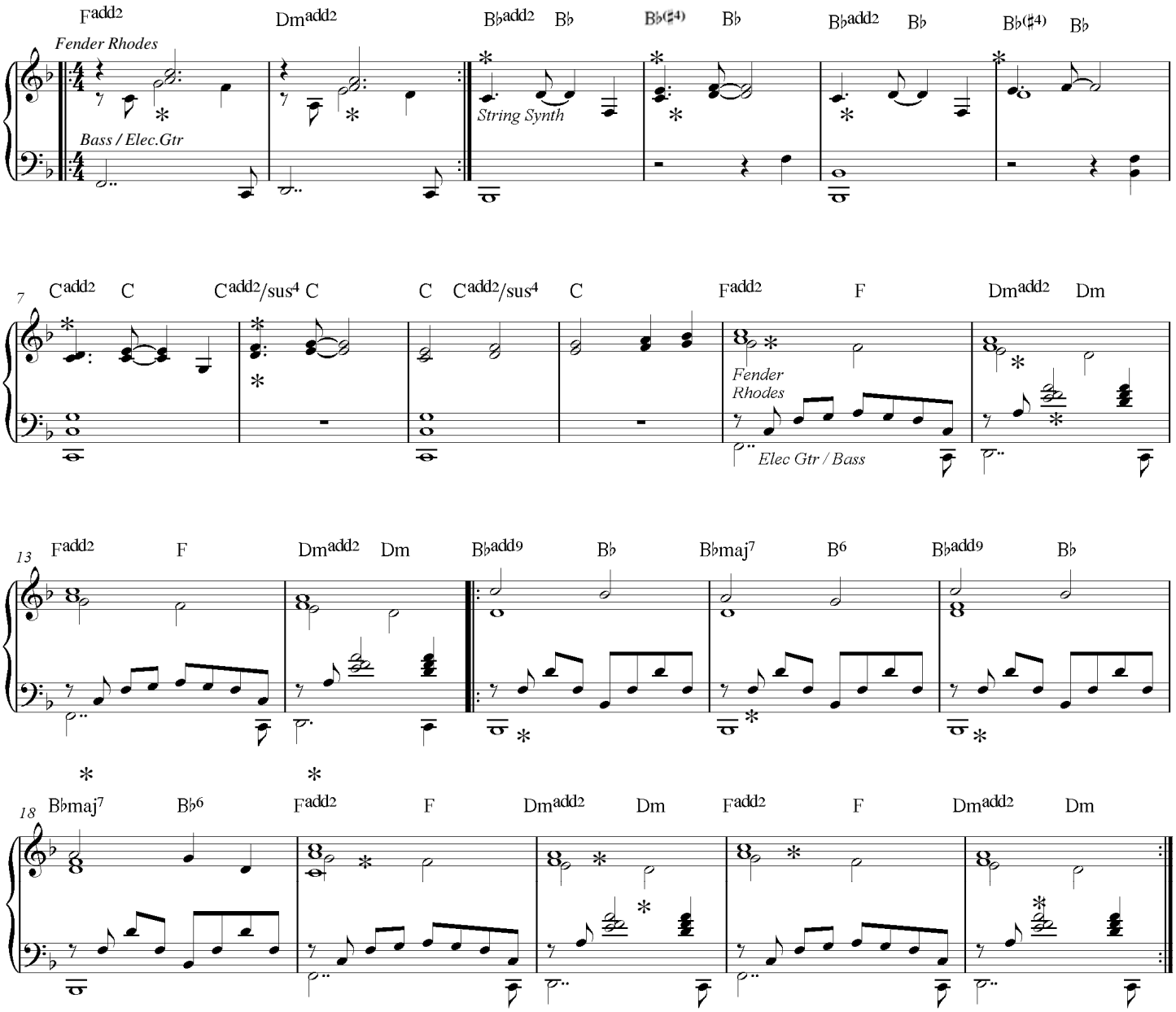
Twin Peaks is an iconic 90s American TV drama by David Lynch, centring round the death of a teenager in a remote American town. Abstract and dark, it became a cult show with a dedicated fan base and became part of popular culture, referenced in other television shows, films and commercials. Lynch's influence can be seen in subsequent TV dramas, from *The Sopranos* through to *Lost*. As the story begins the body of local girl Laura Palmer is washed up on a beach near the small Washington state town of Twin Peaks. FBI Special Agent Dale Cooper, sent to investigate, uncovers a web of mystery or, as Jim Sangster and Paul Condon from 'TV Heaven' described it, the 'slimy underbelly of the small-town American Dream'.
Journalist Andrew Anthony sums it up better than I can in the following extract from *The Observer.*

'Twin Peaks marked a decisive turning point in US television drama. Before Twin Peaks *there was plenty of well-made American TV, though it was mostly generic and limited in ambition. But Lynch, a cinema auteur, tore up conventions and almost single-handedly reinvented TV drama. The standard narrative arc went out of the window, and in its place came idiosyncratic character studies, an elliptical plot, dialogue that brought the bizarre and the banal together in a captivating verbal marriage, and imagery quite unlike anything seen on the small screen. There was also, of course, the haunting theme music by Angelo Badalmenti that seemed to plug directly into the eerier quarters of the subconscious'.*
Andrew Anthony
The Observer

Sunday 21st March 2010

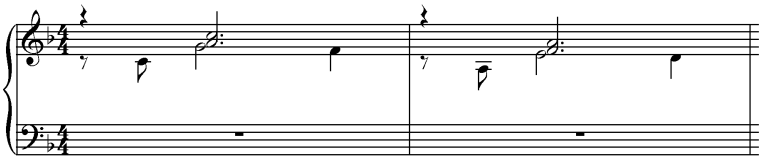
There are two particularly memorable themes which helped *Twin Peaks* convey and communicate its variously poignant, arousing and abstract sensibilities. The first of these pieces (fig.23) is the theme tune itself, which comes at the top and bottom of the show and numerous times throughout. Note that the television version is a slightly different arrangement than the audio version released on CD

Fig.23 *Film - beginning title sequence theme*



In this show more than most the music is rarely absolutely synced to picture; the music offers an emotional commentary on the narrative with the mood changing to suit the scene but rarely italicising on-screen 'hit points'. Music's job on this project is gradual, cumulative and progressive. The pictures transmit immediately, the narrative is digested gradually and the music bonds the two together. The most interesting aspect is that the harmonies *are* the theme and that the melodic line, such as it is, constantly moves from or to 'add 2' extensions. Virtually every bit of movement hits extension intervals; the two pivotal chords are Fadd2 and Dmadd2 (below, fig.24).

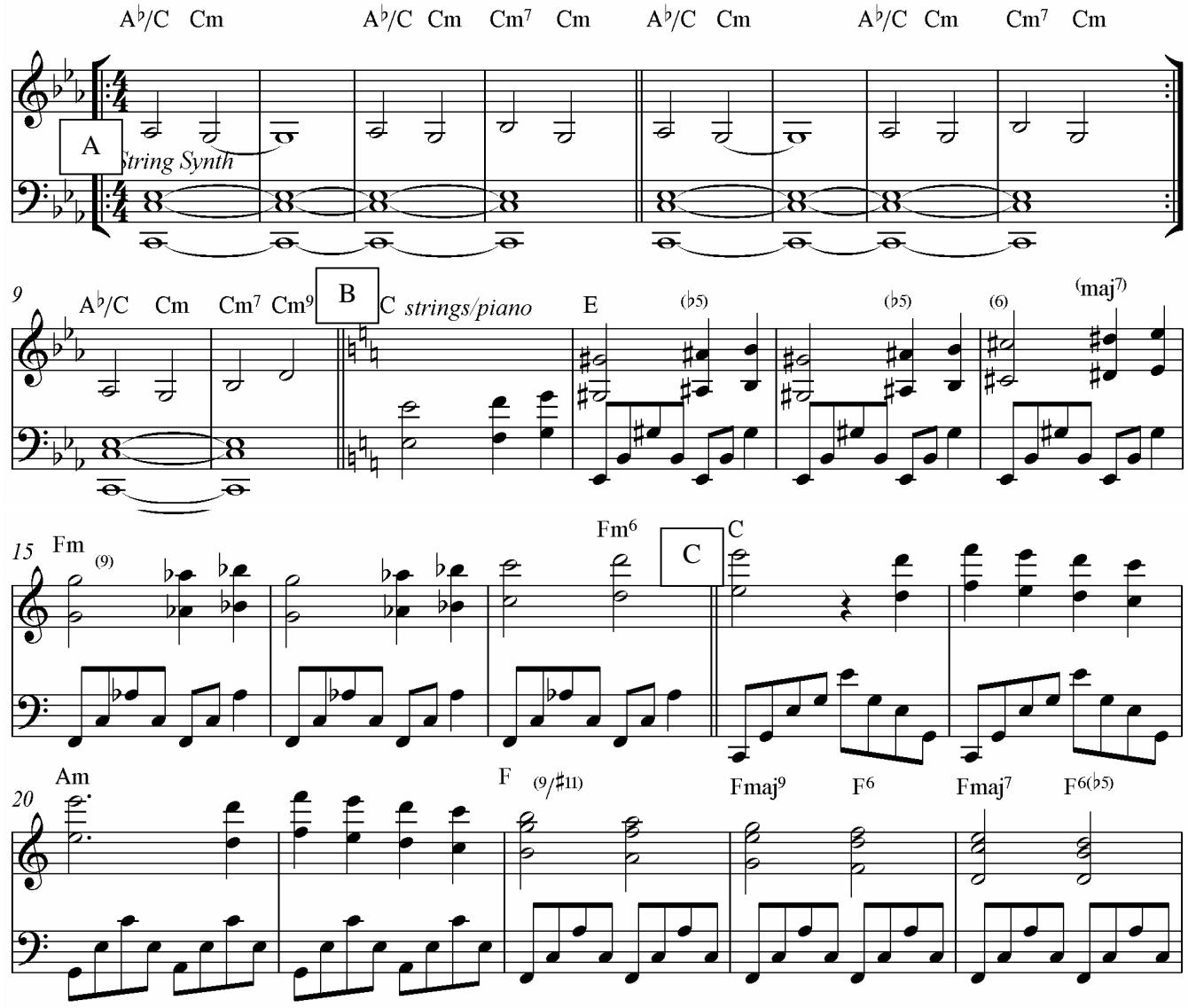
Fig.24



The add2 interval in the major chord (F) sounds polite and romantic whereas the add2 in the minor chord (E) is creates slightly more tension being a semitone from the 3rd (F)

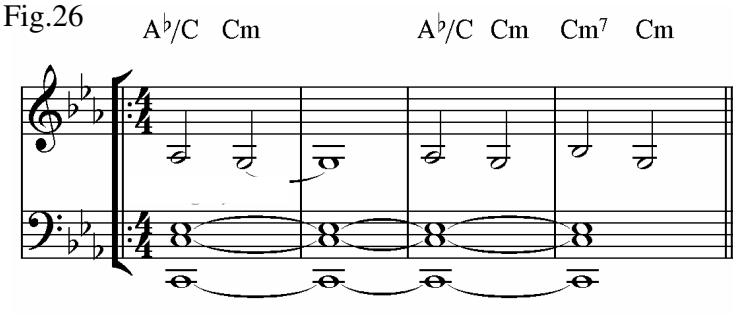
The arpegiated Rhodes sound is crucial in maintaining a lilting sense of momentum and instrumentally the juxtaposition between the Rhodes, synth strings and 'twangy' guitar works well. The add2/9 chords continue throughout the piece (highlighted*).The show has another theme ('Laura Palmer's Theme', fig.25) which itself is split into three parts; the first part (section A) being a morbid and evocative harmonic sequence in Cm, the second (section B) being a bridge section which links to a heavily romantic and reflective final section in C major (section C).

Fig.25 *Audio - Laura Palmer's Theme*



Let's firstly examine the beginning section which has the all-important evocative and commercially successful harmonic interplay between Ab/C, Cm7 and Cm. How and why does such a simple sequence work so well? Part of the success is the sound – a dark analogue Roland D50 synth string sound which italicises and highlights the chords beautifully – but of course there is more to it than that. The harmonic interaction is all-important. What lies at the bottom of this harmonic interaction is the relationship between the notes of G (5th of the Cm chord), Ab (top of the Ab/C) and Bb (7th of the Cm).

Fig.26



Ab/C
Inversion
Dramatic
Not normally a starting point

Cm
Dark

Cm7
Non-mysterious, light pop-style

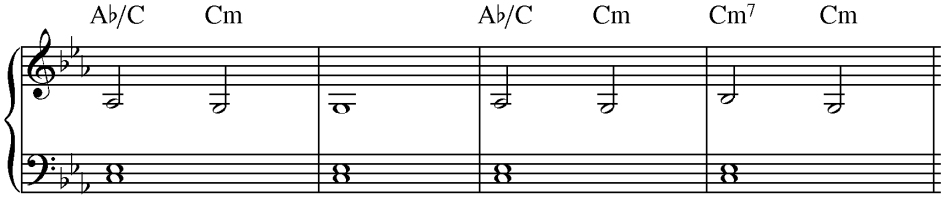
Although on first glance the sequence might seem a little repetitive, there are important reasons as to why this sequence works so well.

The constant, repetitive and mesmeric fluctuation between the four chords breaks down and blurs their normal defining characteristics, and therefore our reaction and response *to them*.

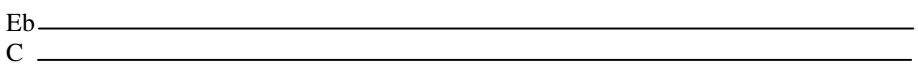
As we can see from the descriptions above, the Cm, Cm7 and Ab/C each possess quite different characteristics. The inversion is not normally a starting point to a chord sequence. Normally it is a dramatic passing/alternate chord, not a starting or ending chord. The minor chord in this context is a simple, dark chord. The min7 chord is generally a light-sounding pop oriented chord. Placing all these together is what prevents the sequence becoming predictable or dull; they might *look* musically similar (after all, only one note ever changes) but their usual distinctive individual function is what makes the chords avoid sounding similar.

Add to this the differing harmonic contexts of the Eb note and the C note, which means we have

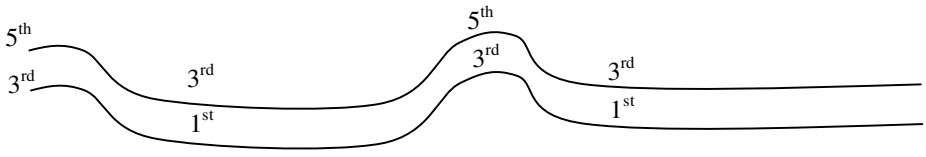
Fig.27



The Eb and C notes as 'notes'



The Eb and C notes as intervals

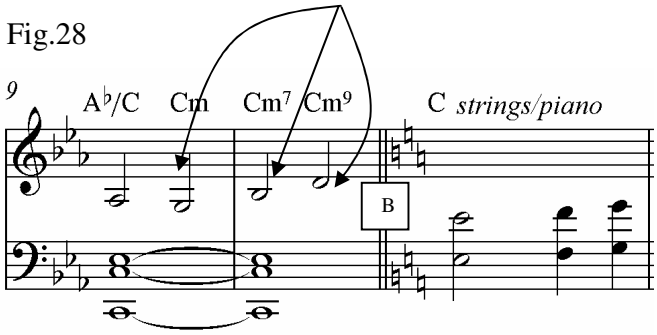


Gm

Fig.27 displays the same sequence but this time highlighting the difference between the notes and the intervals. These distinctions are not simply idle, abstract theoretical points; they go to the heart of how music communicates and why, in this case, what might on paper look simple and boring, can be interesting

If we turn now to the link between section A and B (bars nine and ten of fig.25) we can see the inclusion of the D note (the 9th – potentially common to both Cm and Cmaj chords) works as an effective and seamless link between Cm and Cmaj

Fig.28

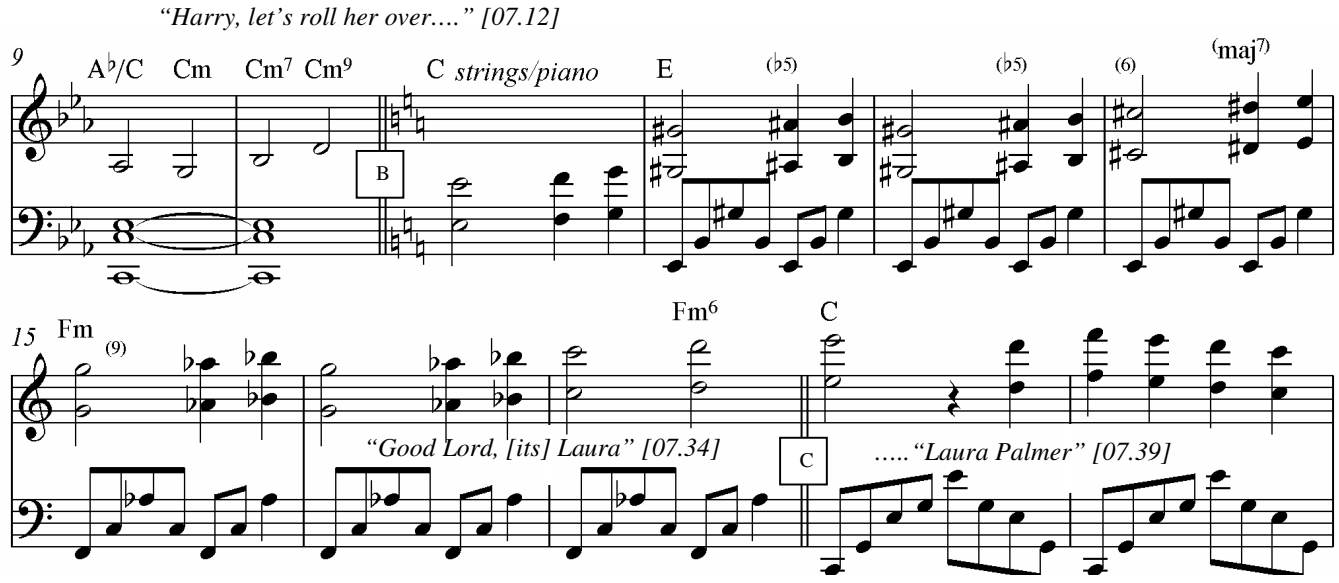


Without the link note of the D note the change from major to minor may well have been a little too unsubtle. Also, as highlighted, the three preceding notes leading to figure B (the G, Bb and D) create more than a whiff of Gm, which again makes for a smoother transition to the key / chord of C.

Focusing on section C, which begins on bar fifteen of fig, it is interesting to note that in the first episode this beautiful, romantic theme is played over the discovery of the dead body of the Laura Palmer. In the first episode of *Twin Peaks* at around 6 minutes, the somber first few bars of the piece (Ab/C, Cm, Cm7 and Cm) plays over the scene as the body, wrapped in plastic sheeting, is discovered by the shore. This continues until the body is uncovered and the identity revealed. As the police detective says "Harry, lets roll her over" bar ten (the link section) begins. At bar seventeen just as the link section is about to give way to section C, the detective recognises the victim, saying "Good Lord – [its] Laura". At this point section C begins, which is the beautiful, romantic theme.

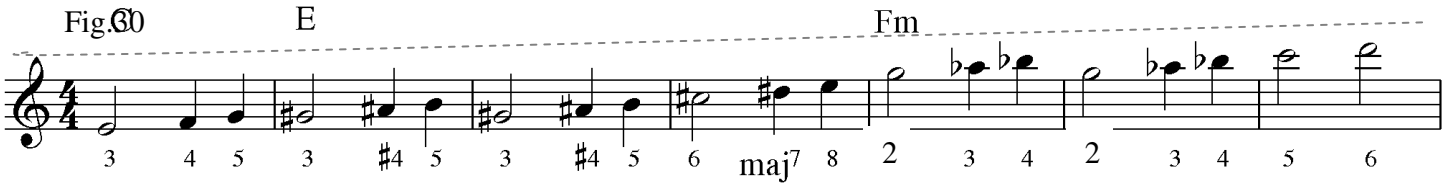
The crucial point here is that the music plays the sadness, not the murder. It plays the beauty of the victim, not the crime; it plays life, not death.

Fig.29 *Twin Peaks, Episode 1*



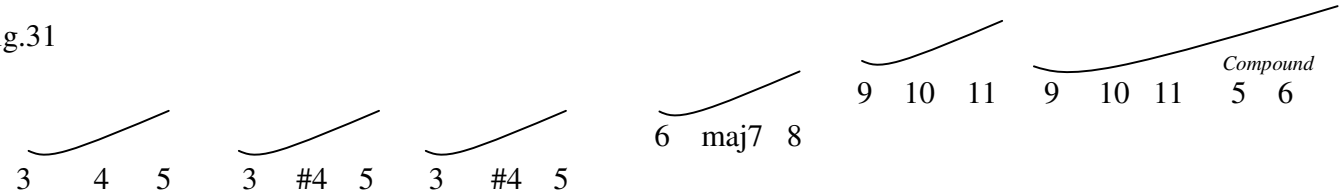
Before we leave *Twin Peaks* its interesting to note one more thing; the music below (single stave transcription of the melody from bar eleven-seventeen of fig.25) is one-directional – ascending.

Fig.30

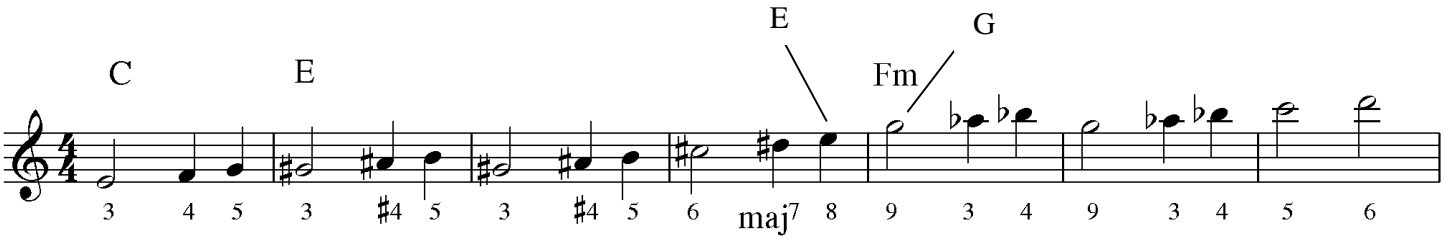


However, if we look at the intervallic context underneath the notes (e.g. which intervals are stated in context of the accompanying chords) we can see that this is not the same. If it was, the notes and the intervals would be parallel. The intervallic story is a very different one; it is one in which the 3rd (a rich defining interval) is regularly hit at the beginning of each of the first three mini phrases. Instead of one long ascending line, the intervals consist of several lines which hit crucial intervals throughout (see fig.31).

Fig.31



Looking again at the abbreviated example from fig.30 the transition between the last note of bar four (the note of E) and the G note which follows it *does* have a peculiar and faintly disturbing quality to it.



The melodic interval seems to sound 'out of place' and a little odd. If we remember that any melody note and accompanying chord are nearly always 'framed' by what came before. The chord under the E note is an Emaj, whereas the chord under the G is an Fm. Put simply, the 'memory' of the E note will not sit well under the Fm chord (where it would have represented the maj7) and especially the G note will not sit well with the memory of the Emaj chord, where it would represent a min3. Considering that most intervals we listen to are designed not to ask questions of us but instead to soak effortlessly into place, this small section constitutes almost a small harmonic collision – an exquisite tension. What are listeners supposed to listen to? Do we listen to the semi-tonal chordal rise, or the fact that one is a major chord and the other is minor, or the interval between the notes E and G or the fact that that the G represents the slightly odd interval of a 9th. In truth we probably don't focus on any of the above, but it is the harmonic conundrum created that partly creates the 'exquisite tension'.

The enduring legacy of Twin Peaks and its music

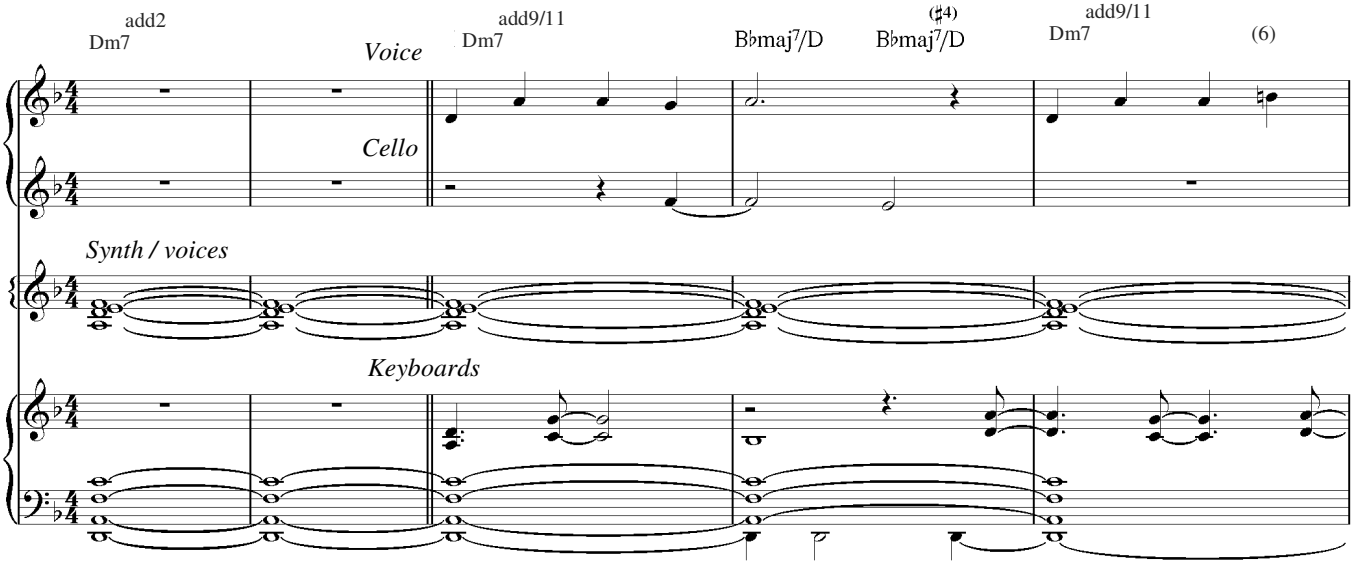
David Lynch's *Twin Peaks* remains one of the most ambitious and genre-busting popular television series of all time. Lots of people who remember the show remember the music primarily and the story and image via the power of association. If viewers saw an image of *Twin Peaks* or any of characters in situ, it would undoubtedly provoke a memory response, but if the same viewers were played the music their response would be more striking, acute and enduring.

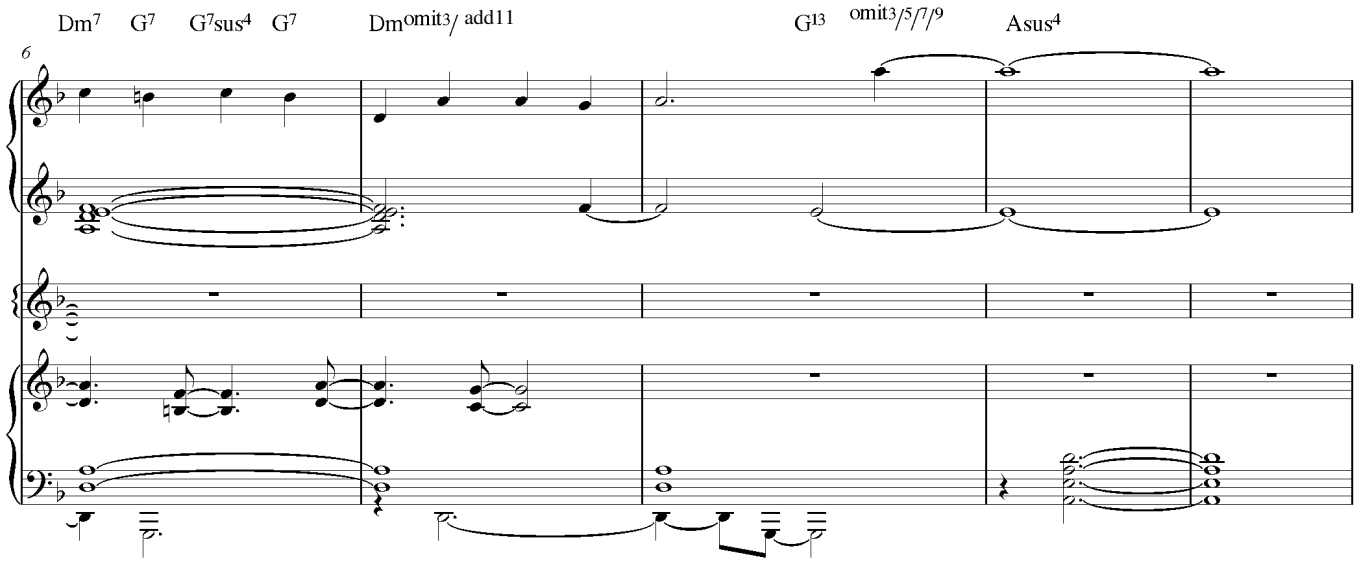
Whoever said 'seeing is believing' clearly didn't understand the transformative communicative power of music. Seeing something which triggers a memory is a powerful mental reaction, one we can understand and rationalise. We tend therefore grow used to the power of the image. We understand, we know, we 'get it'. But hearing music which triggers a memory or an emotional reaction is potentially all the more potent precisely *because* we don't fully grasp how and why we're affected in this way. Most people cannot rationalise the multitude of emotional signifiers in music and the complex way they work in the same way they can with images. Its power catches us unaware. Perhaps because of that we're always surprised by the striking memories music can generate. So many examples in the history of television can be seen to set examples for future filmmakers. *Twin Peaks* subverted our expectations and paved the way for shows like *The X Files* and even *Lost*. The dreamy textured music of Angelo Badalmenti breathed life into the use of synths, which at the time were seen by many as a cheap way to recreate acoustic instruments. Badalmenti's use of sound and technology can be seen as truly creative and innovative. The dark synth sound at the beginning of fig.25 was used not to replace or emulate 'real' strings, but as a sound in its own right. Real strings wouldn't have worked as well because they lack the distinctive sound textures and unique sonic qualities of the sound Badalmenti used.

Silent Witness *John Harle*

Silent Witness is a BBC television series which focuses on a team of forensic pathologists. The theme, by John Harle, is one of the most instantly recognisable and genuinely evocative themes in 20th century television history. Its mixture of entrancing sounds and captivating communicative harmonies create vast amounts of emotion. Some of the key reasons it communicates so well are the blurring of harmonies; once again the 'confounding of expectation' is what wrong-foots people and focuses their attention. What we *expect* may well be popular but it is also something we can occasionally 'zone out' of because it is typical, archetypal, emblematic, classic; 'normal'. Sometimes if we deny the listener an absolutely defined harmonic base (a convenient peg on which to hang their presumptions and prejudices) it can actually draw them in and create much more of an 'experience', which is, after all, what music is supposed to be. So much of visual art and even cinema (to a degree) is based on giving viewers an experience they didn't expect or weren't prepared for, whereas popular commercial music tends, in the main, to stick to a diet of the pretty and the predictable. John Harle's theme from *Silent Witness* proves beyond doubt that music which is suggestive rather than clear, implicit rather than definite, reminiscent and indicative rather than specific and clear cut, can work brilliantly well precisely because it is so open to personal interpretation. So, with all this in mind, exactly how does *Silent Witness* achieve this? How does it deny us our expectation? How does it suggest but not state? Much of the credit is down to the specific choice of sound and also the amorphous, nebulous and fluid production mix. But of course all this means little without the harmonies which work so well *with* the sounds and the mix. Below is a transcription of the theme.

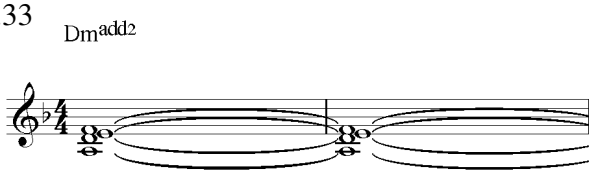
Fig.32 *Audio – 'Silencium'*





From the start, any defining harmonies are fairly well subsumed into the undergrowth of extensions and tone clusters which help in blurring the harmonic identity.

Fig.33



The addition of the 2nd in the cluster (fig.33, left) is important in that respect. The cluster chord is audibly very low in the mix, but it's almost subliminal presence is crucial

Secondly the off-beat keyboard /percussion parts played in bare, stark 5ths, state odd intervals designed to further blur the harmony. In the second statement (fig.34, right) they state the 7th and 11th (C and G)

Fig.34

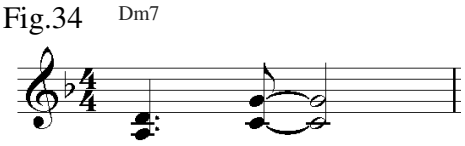
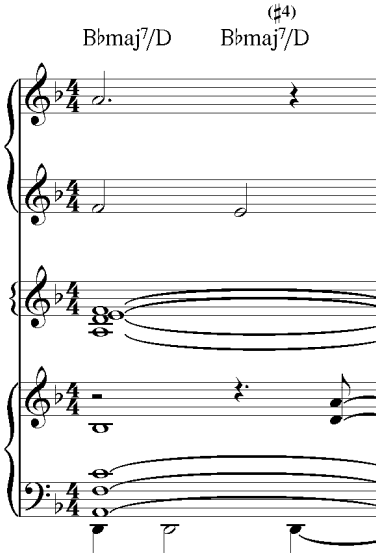


Fig.35



In bar four of the original transcription (fig.32 and left, fig.35) there is also a delicious harmonic tension created by the deliberate blurring of Bbmaj7 and Dm7 chords.

This is supplemented by the E note (#4) on the cello and buried in the synth chord (second stave up). This polyharmony works well because, again, it shaves the edges from the certainty of harmony and leaves it sounding ethereal and incomplete.

It is worth reflecting at this point about what elements of a chord determine its character and effect. Put simply there are two reasons why chords communicate in any specific or particular way; firstly and most obviously what a chord contains harmonically will dictate how it sounds, but secondly and perhaps less obviously the environment and context of the chord is crucial. Any chord is affected by what chords come before and / or after. As we saw in *Twin Peaks* how we frame or deliver a chord is crucial. Perception and context is everything.

Deep Water *Harry Escott*

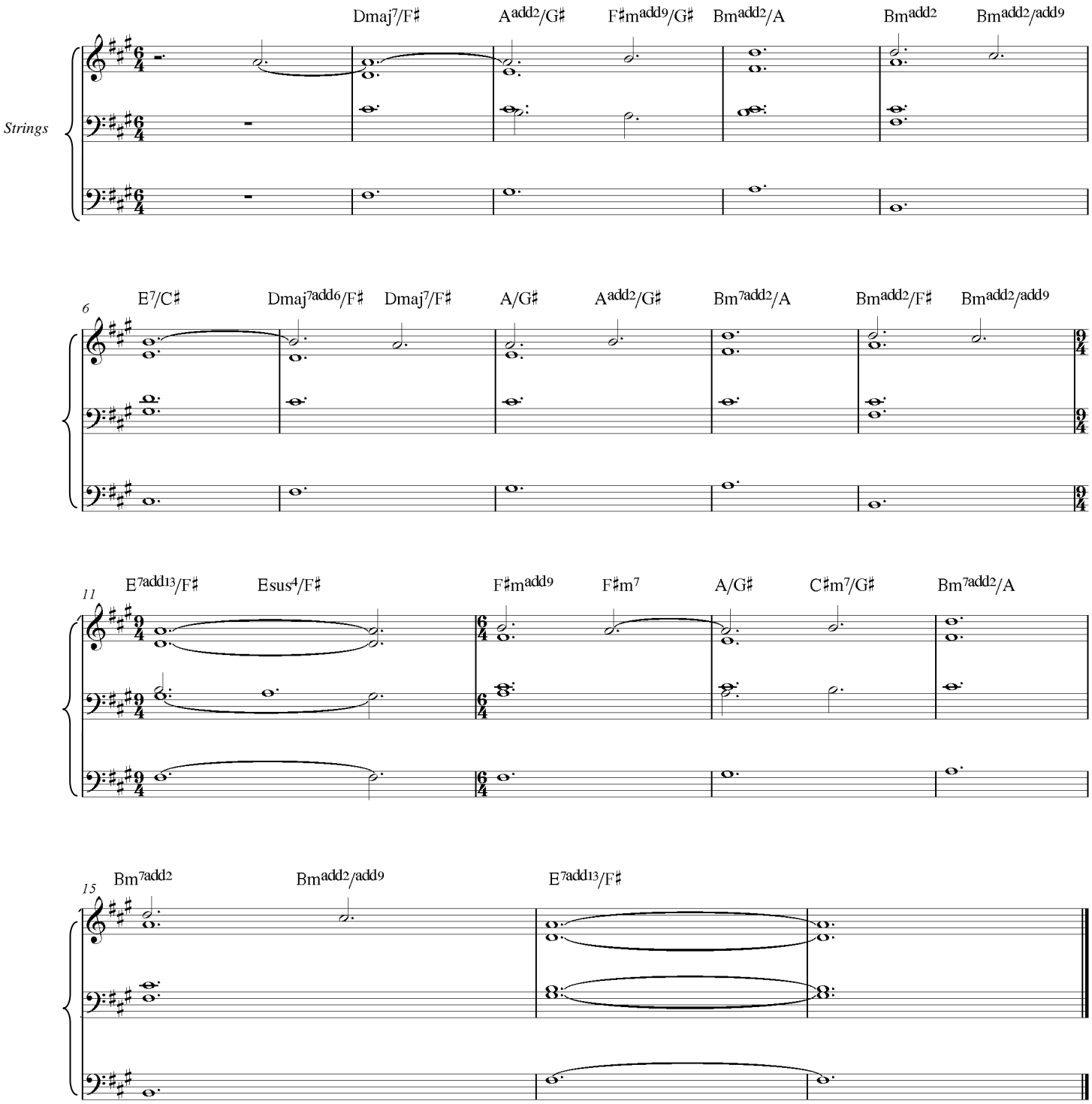
Deep Water sensitively documents the events surrounding the death at sea of Donald Crowhurst whilst he was attempting to win the 1968 *Sunday Times* solo non-stop around-the-world sailing race. The documentary uses Crowhurst's original 16mm films to reconstruct his journey.

Because of a complicated arrangement involving funding and press coverage, Crowhurst faced probable financial ruin if he did not win the race or at least come a credible 2nd; something which must have caused terrible strain on him both before and during the race. He set sail on October 31st and after a slow start began to communicate impressive daily distances back to his delighted family and press agent back in England. The reality, however, was that an inexperienced Crowhurst was falling badly behind. The truth was that, unlike other competitors, he had falsified his position to make it look as if he had sailed round the world when in fact he'd done no such thing. His plan was to move into a position whereby he could wait until the rest of the boats went round the world and were on the last section of the race (from South America, upwards and across the Atlantic and back to England) and then quietly slip in behind them. He therefore kept two logbooks – one which contained elaborate false calculations and one which contained the truth. His plan by this point was to come 2nd or 3rd – an honourable achievement and one which wouldn't lead to competition organisers scrutinising his logs.

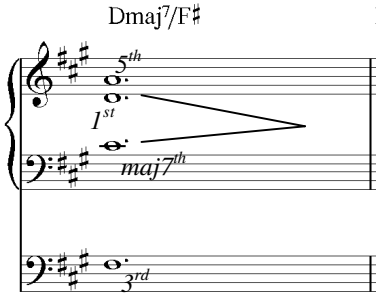
Eventually, months later and due to some of the other competitors leaving the race, Crowhurst was suddenly seen as certain to win. With the sure knowledge that on his return his fraud would be revealed, he began to panic and so began his nightmarish mental decline. When his boat was finally found without him on it, his terrible story was revealed to the world. This heartbreaking story is told sensitively throughout, benefitting from skilled writing, photography and editing. But what makes the documentary even more compelling is the sensitive and emotive music by Harry Escott and Molly Nyman. There are numerous examples which emphasise the clever and effective use of exquisite dissonance to create emotion and tension. The first section to be analysed comes toward the end of the documentary, just after Crowhurst's widow recalls how she learned of the events surrounding the tragic fate of her husband. She recalls how she was coldly told by a journalist, "Donald didn't sail around the world; he committed suicide", after which the film shows footage from 1969 which shows hoardings emblazoned with 'Teignmouth Welcomes Donald' being unceremoniously taken down.

Over this scene a string section plays the piece below (fig.36) which contains subtle tensions that manage to effectively but sensitively italicise the tragedy of Donald Crowhurst's plight and that of his family's grief.

Fig.36 *Film – 01.21.00 ("No one likes to be conned")*



Bar 2 of fig.36

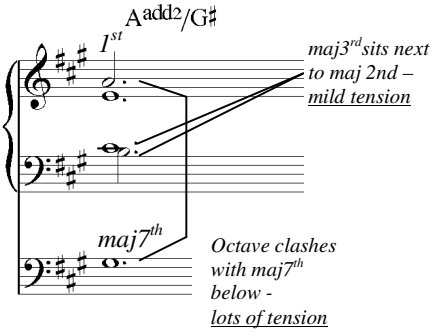


Bar two of fig.36 (shown separately, left) has one point of subtle tension; the semitone clash between the C# and D is relatively exposed. Normally any such clash would be within a chord which had more voices than this one, thus lessening and softening the exposure. In this voicing the tensions is there to be heard. One reason why the chord transports so subtly despite its tension is because it *sounds* like it has two possible interpretations; it could be an F#m (with a min6th – D- clashing with the 5th -C#-) *or* it could be as it is written – Dmaj7/F#. The concept of a 'duality of harmonic interpretation' is not just idle theoretical debating point; it goes to the centre of how and why this chord sounds like it does and works so well.

We give chords names to identify them but also as a means of describing how they sound. A minor chord has a distinct sound and an inverted major chord also has a distinct sound. What the chord above does is shave the edges from our interpretative certainty; it almost creates a blur between the two possible interpretations. If there are two ways of theoretically describing a chord then arguably there are two ways of aurally listening. The vast majority of people listening to this chord would be completely (and perhaps happily) oblivious to these facts, but they are still the beneficiaries of the exquisite tension a chord like this creates. Sometimes when people refer to music as ethereal, what they mean is that the harmony either can't be identified or is implicit of two harmonic realities.

Bar 3 of fig.36

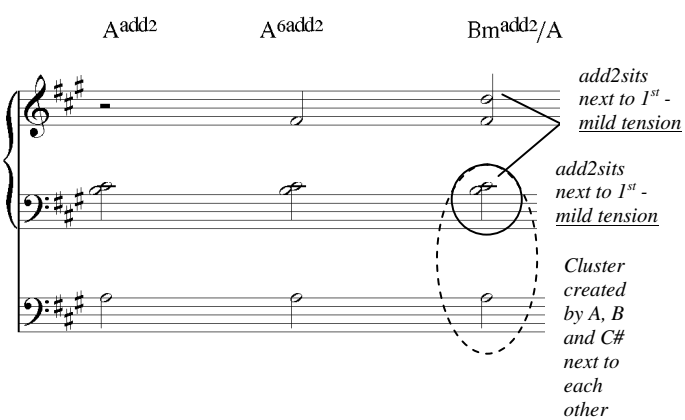
The chord in bar three of fig.36 (written separately, right) would rarely be used as a starting or ending chord but it works extremely well as a *transitory* chord. It works so well because, once again, its character and flavour is indistinct. Chord symbols represent not just what we call the chord or visually identify it, but how the chord 'sounds' and 'feels'. The top three notes of the voicing sounds like an A/C# chord with the bottom two notes (G# and B) representing the first two notes of a G#m. The 'sound' of the chord can be interpreted in different ways which is why and how it possesses an almost dream-like indistinct and indeterminate quality.



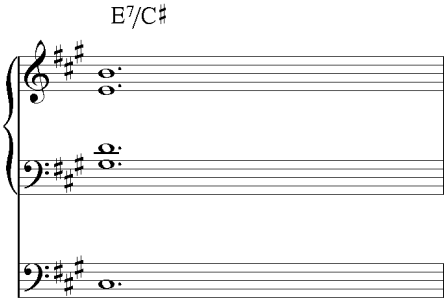
The chord is slightly denser and a little clustered and has two points of harmonic impact; the first is between the B and C# (add2 and 3rd), but the one which really creates the tension is the relationship between the top A of the chord (1st) and the bottom G# (maj7th).The interval between these two notes is a min9th. The chord functions almost like an impressionist painting in that if invites different interpretations, unlike most harmonic devices which are designed to be unambiguous, definite and zipped up.

Bar 4 of fig.36

The chord in bar 4 of fig.36 again features another example of ambiguous harmony. To the right I have transcribed the various stages of harmonic development and tension ending with the chord itself. From the bottom upwards the chord functions firstly as an Aadd2, then an A6add2 before finally the top D is added, making it sound like a Bm(add2) over an A bass. The chord symbol doesn't suggest tension, until you see where the minor 3rd is voiced, on top and exposed. Mitigating the tension is the interval between the bottom note (A) and the C# a maj3rd above.



Bar 6 of fig.36



Analysing harmonic groupings through the prism of chord symbols is helpful because it enables us to evaluate, understand and abbreviate the harmonic basis of the different aspects of the grouping. Bar six (written separately, left) consists of an E7 built over a C# root. This is more than merely a description; it also enables us to identify why and how it sounds as it does.

Although there is only one point of tension (between the D and the low C#), it is much more dissonant because the clashing note is at the bottom: we prioritise our listening automatically; we usually hear the top and bottom notes more clearly than the internal voicing. I say all this because 'hearing' the chord without the benefit of transcription gives the impression of a much more complicated harmonic grouping than is actually the case. The tension is clear and simple to understand but profound nonetheless.

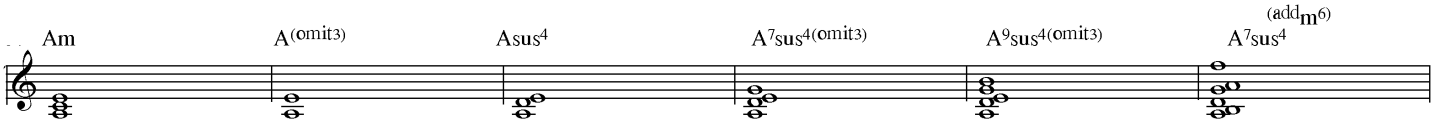
Pandiatonic harmony

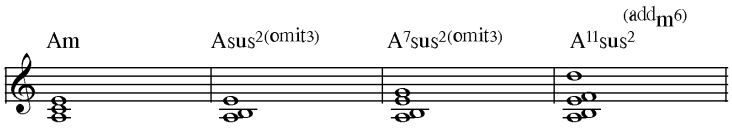
Deep Water and also the music for *Inspector Morse* (which we look at later) uses the concept of Pandiatonic harmony, which can be extremely effective in creating new harmonic colours which may not appear with a more traditional approach to harmony. Pandiatonic chords and sequences are those formed freely from all degrees of a diatonic scale without regard for their diatonic or hierarchical function, sometimes to the extent of no single pitch being felt as a tonic. Put simply, all notes are equal. With traditional harmony there is a pecking order. With Pandiatonicism there isn't.
Many of the more expressive composers have used this approach including Aaron Copland, Igor Stravinsky, Debussy, Steve Reich, John Adams and Henryk Górecki (Symphony No.3). Arvo Pärt's *Cantus in Memoriam Benjamin Britten* is perhaps the best example of how effective Pandiatonicism can be. The feeling that music has no absolute tonal centre and that its harmony is devoid of the tyrannical hierarchy that the classical tradition has bequeathed us, can be a refreshing experience. Sometimes it's good to not *just* use Pandiatonicism but to use it alongside more traditional approaches, morphing in and out of harmonic focus, so as to speak, so there is light and shade. Music which glides in and out of Pandiatonicism is often amongst the most expressive and communicative.

Pandiatonicism bridges the gap between 'normal' harmony and abstraction. It confounds the expectation but doesn't destroy it. Pandiatonicism bridges the gap between chromatic dissonance and the safe territory of defined chords. One simple way to acclimatise to Pandiatonicism might be to use all the pitches in a diatonic scale but minus their hierarchy. This is difficult because we automatically default to a more hierarchical and organised state of mind. Anyone who has been 'taught' music cannot avoid the structure it comes with. As an experiment, one way to acclimatize to a more pandiatonic state is to sit at the piano, use only the white notes and play variations on an A chord *minus* the 3rd. Whilst being free to utilize all the usual additions and extensions which might create a more vivid and abstract minor chord, you miss out the *one* component which would actually identify it – the 3rd. Below a selection of chords is transcribed; bar one features a normal minor chord, bar two a root and 5th, minus the 3rd. In bars three to six I have added variously the sus 4th, 7th, 9th and minor 6th. The point is that these chords take on a different meaning when they are deprived of the crucial minor 3rd. It's not that there is a *different* hierarchical relationship, more that there isn't one at all.

You might think it odd that I have added chord symbols which interpret the chords 'properly' but I do this simply because it's important to rationalise what you do 'pandiatonically' in a more traditional harmonic sense, to gain perspective and see the magnitude of the changes made.

Fig.37

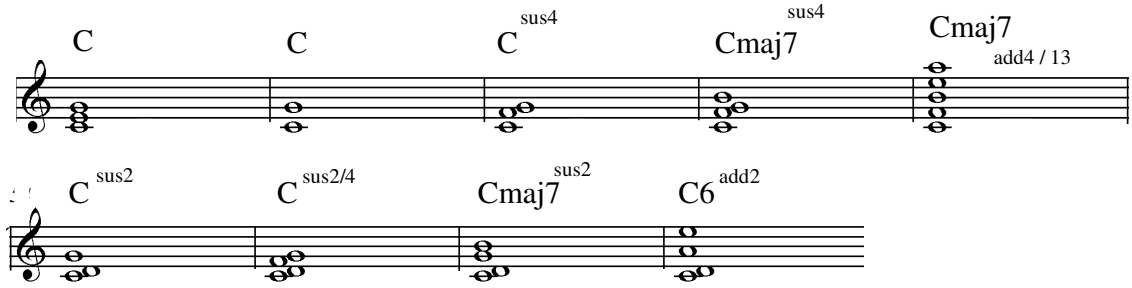




In bar seven I have once again voiced an Am chord but in bars eight, nine and ten I have taken out the minor 3rd and added the sus 2nd, 7th , 11th and minor 6th. Once again the simple act of taking away the most descriptive interval causes some interesting abstractions

Below a simple C triad is transcribed in bar one. In bar two the major 3rd is removed and in subsequent bars the sus 2nd, sus 4th, maj7th and 13th are added. Once again it is quite interesting to note how the various extensions react when they're not accompanied by the one interval which usually contextualises, defines and almost 'authenticates' their character.

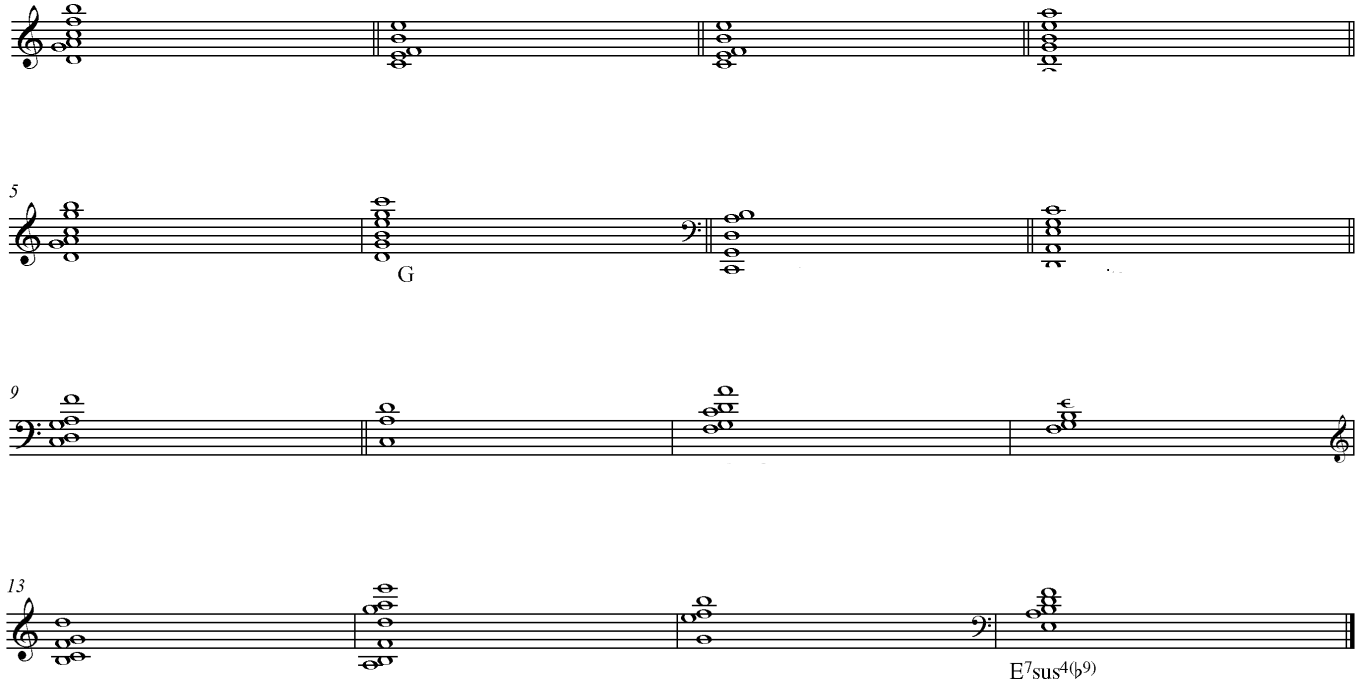
Fig.38



The link between Pandiatonicism and Polytonality

Some of the chords below (fig.39) function in a polytonal way, others could be described as pandiatonic and some bridge the gap between rational harmony and Pandiatonicism. In most cases the notes struggle to create a completely coherent and defined chord; they struggle to exert a harmonic resolution or 'conclusion'. This is what can make 'fractured' harmony sound ethereal.

Fig.39



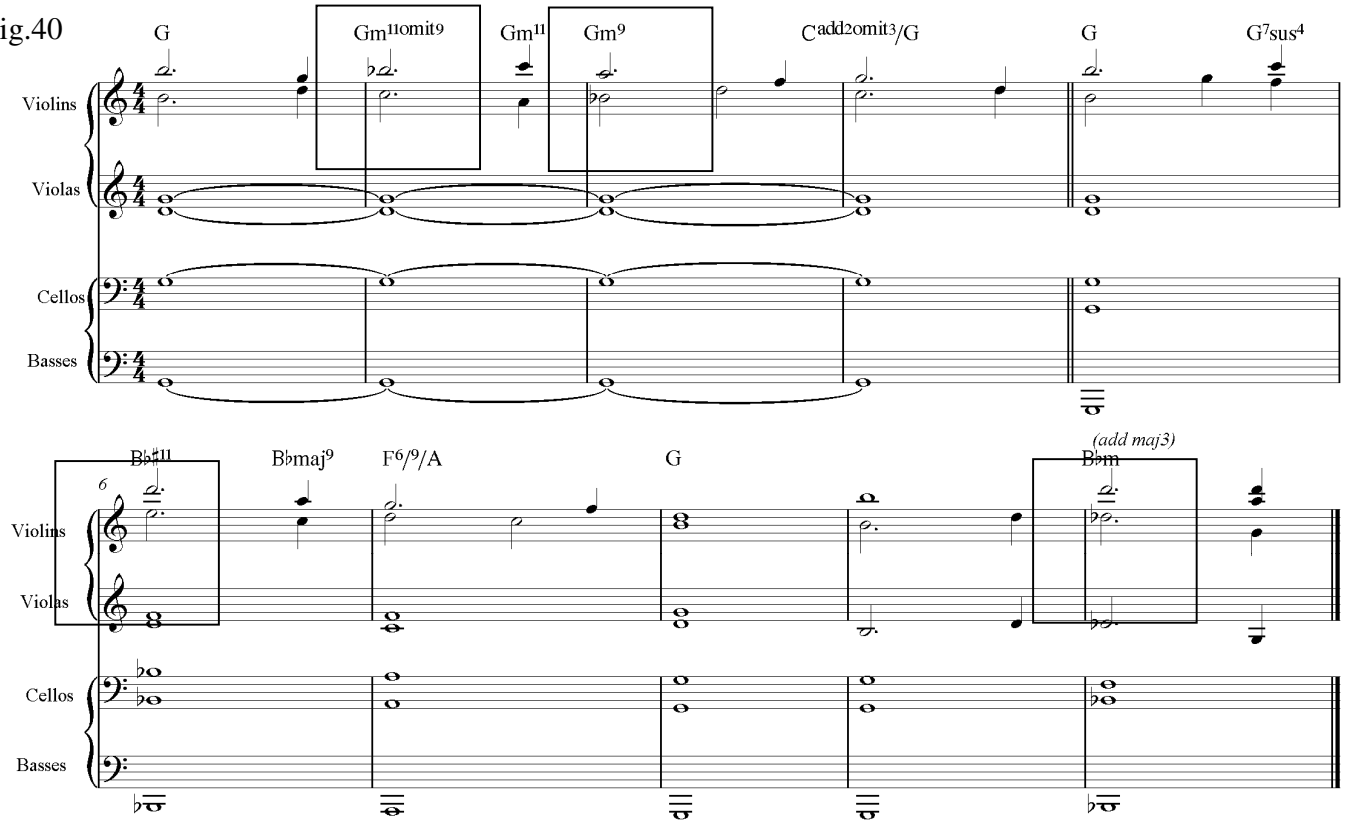
The tensions created in the next excerpt from *Deep Water* (by virtue of ambiguity and abstraction) prove again how virtually the entire score for this documentary is built around a kind of 'polite dissonance' or 'broken harmony'.

The music draws the viewer into Crowhurst's character far deeper than a more conventional harmonic approach might have achieved. This part of the film shows one of the boats in the early stages of the race; although the rhythm which accompanies the harmony in this excerpt has movement (which lends the excerpt a nautical feel) the harmonies are once again vivid, dramatic and portentous. How does harmony do this? How can something that the vast majority of people do not understand and cannot rationalise, communicate such vast and specific emotion? How can music possibly be 'portentous'? Instrumental music does not contain words or anything else that might betray its meaning, and yet still it still communicates; not literally but figuratively.

I have highlighted the obvious harmonic tensions but these alone do not fully explain the colour and expression created by the harmonies. This is because the highlighted (boxed) high harmonic tensions need something to react to. In musical terms tension alone is simply tension; when it reacts *against* something or *with* something is when it can so powerfully create a mood; music is a series of reactions. Underneath the top two string parts in bar two is simply a stark, bare G chord with no 3rd. This means the interval between the 11th (C) and the Bb (a 7th higher) is particularly exposed and dramatic. A 7th interval is not normally so powerful when the *bottom* note of a 7th interval is the root of the chord. In this case the lower note is an extension (the 11th). The C disrupts what would otherwise have simply been a relationship between a high minor 3rd and the root notes several octaves lower.

Film – 00.13.48 ("One by One")

Fig.40



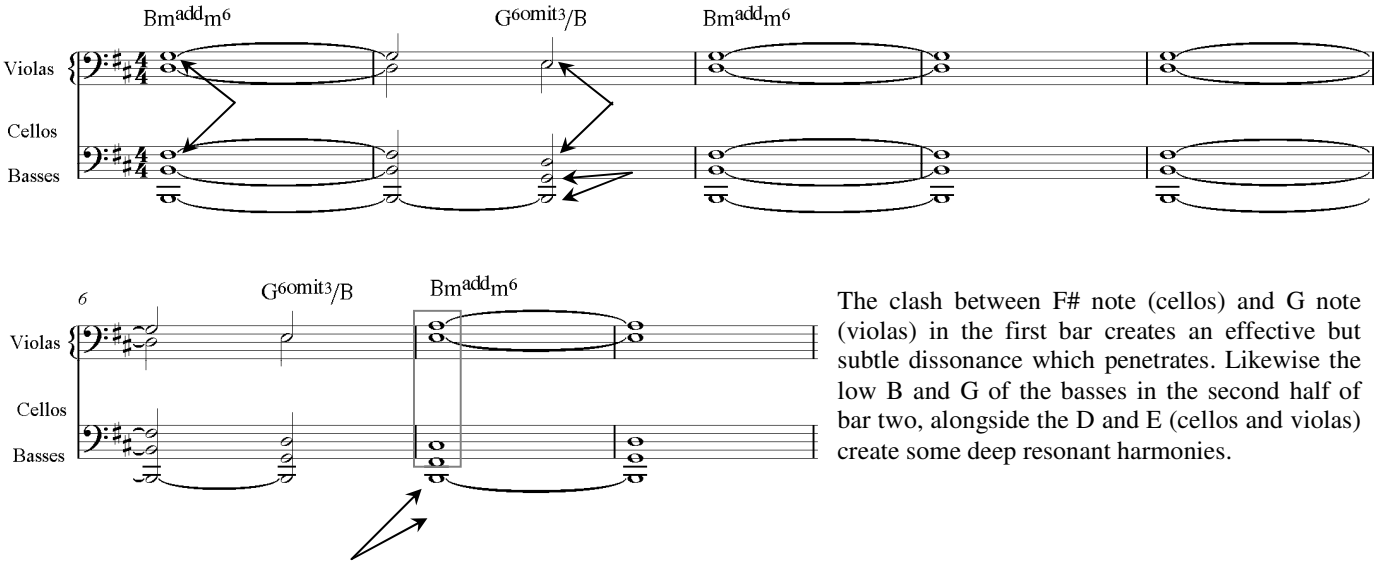
Another highlighted tension in fig.40 is a more simple affair in bar three between the Bb (min 3rd) and the 9th (A) a maj7th above. A Gm9 (and specifically the interval between the 3rd and 9th) would normally come with the5th and 7th to 'soften' it up. Here it simply comes on top of the 3rd creating a somewhat stark interval. Bar six contains another exposed interval, and again the tension between a #11 (E) and a high maj3rd (D) comes aloft a simply voiced Bb chord. Tellingly the top note of the main body of the chord (viola, F) is nearly an octave lower than the #11, which exposes the two violins (E-D) and their interval of a 7th. In addition the interval between the viola F and the violin E is itself a major 7th, which creates additional but subliminal tension.

Without doubt the biggest and boldest dissonance is in bar ten which, from the bottom upwards displays a simple Bbm chord with two minor thirds (Dbs), but which, right at the top on high violins, states a *major* 3rd. On paper this looks like a potentially ear-splitting chord which would create enormous dissonance, and yet the effect, whilst being dramatic, is not harsh at all. There are several reasons for this: the minor 3rd and major 3rd are not literally side by side, they are separated by a gap of over an octave. Also the previous chord is a strong G chord. I say 'strong' because the major 3rd in this chord – the B – is stated in three successive octaves, which means that the chord switch to Bbm (+maj3) gives the listener little time to acclimatise. If a Bbm chord had been stated and then *added to* by the major 3rd the dissonance would be more obvious.

The excerpt below again features some evocative, suggestive and sombre harmonies which communicate the gravity of Crowhurst's situation beautifully. This scene is shot immediately prior to Crowhurst's departure at the outset of his voyage; the music italicizes the tension and stress apparent in his demeanour.

Film – 00.24.19 ("The Pilot's Waiting")

Fig.41



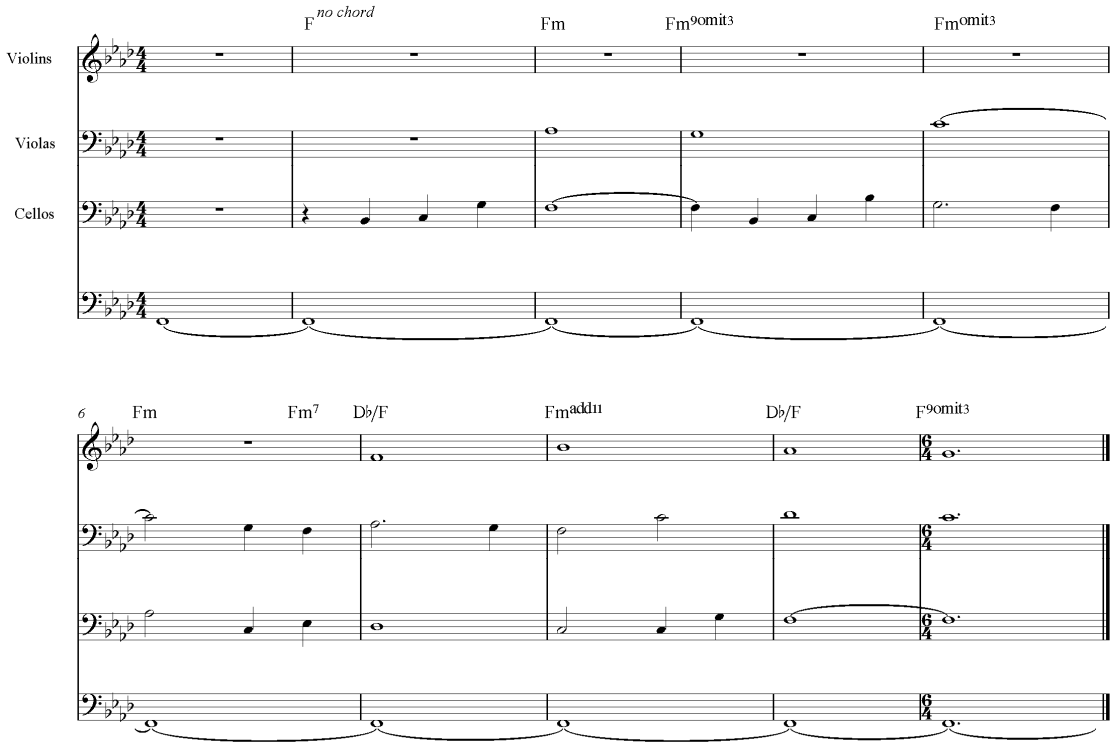
The clash between F# note (cellos) and G note (violas) in the first bar creates an effective but subtle dissonance which penetrates. Likewise the low B and G of the basses in the second half of bar two, alongside the D and E (cellos and violas) create some deep resonant harmonies.

The chord in bar seven contains an exquisite clash; the top four notes state what amounts to an F#m7, but the underlying low B disfigures and alters the sonic clarity of the chord. The low B and the F# immediately above create a kind of 'lumpy' sonically ambiguous dissonance, as does the relationship between the low B and the C# (cellos) a 9th higher.

As we have discussed in much greater detail elsewhere in the book, it is often underestimated to what degree music for documentary is written to the dialogue, the narration, rather than the picture itself. In many ways it is as much music to words as music to picture.

"As Crowhurst sailed away from land the other sailors were coming round the Horn and racing north, for Europe and home..." – following this narrated section which underpins the seriousness of Crowhurst's situation, the following piece is heard.

Fig.42 *Film – 00.56.42 ("After Cape Horn")*



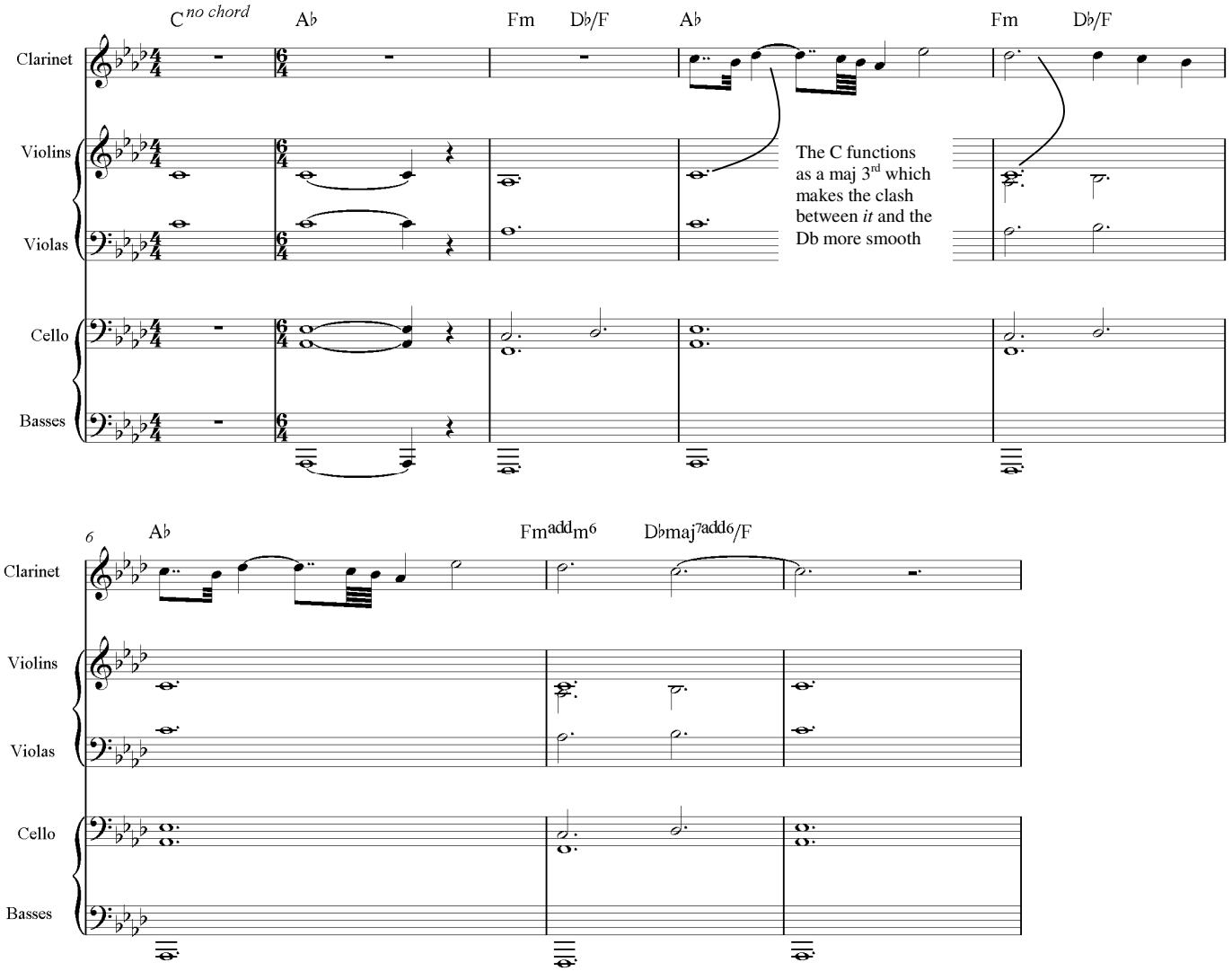
The interesting thing here is how the music reflects the uncertainty and fear of the situation by fluctuating in and out of 'normal' and extension chords; bar three offers an Fm chord but bar four has a 9th and 11th with no defining 3rd.

Once again this bareness, this starkness really offers the narrative a kind of subtle desolation. Apart from one or two 'ordinary' chords this section is a triumph of 9ths and 11ths and displays how these intervals take on new meaning if the chord omits the 3rd.

This next piece has a musically positive feel. Beginning with a major chord and containing a beautiful clarinet motif, the music actually comes following the news that one of the contestants in the round-the-world yacht race – Bernard Mortissier – was so affected by his experience that he didn't want to come home and had decided to sail round the world *again*. Profound and dramatic in its own right, this also effected Crowhurst's situation badly. The narrator states: *"after seven months at sea and barely six weeks from home Mortissier abandoned the race and turned south again – he was sailing on again, around the world a second time"* after which the serene music (fig.43) comes in. It contextualises the beautiful and wonderfully desolate seascape Mortissier had been so transfixed by.

The Db melody note in bar four creates a reaction with the maj3rd an octave lower; despite being a b9 interval it creates tension but not dissonance, not least because of the rich string voicing underneath and the fact that the C note *is* a maj3rd. The same Db note functions as a suspended 4th in the Fm chord a bar later, where the clash between it and the C note (5th of the Fm) is more obvious.

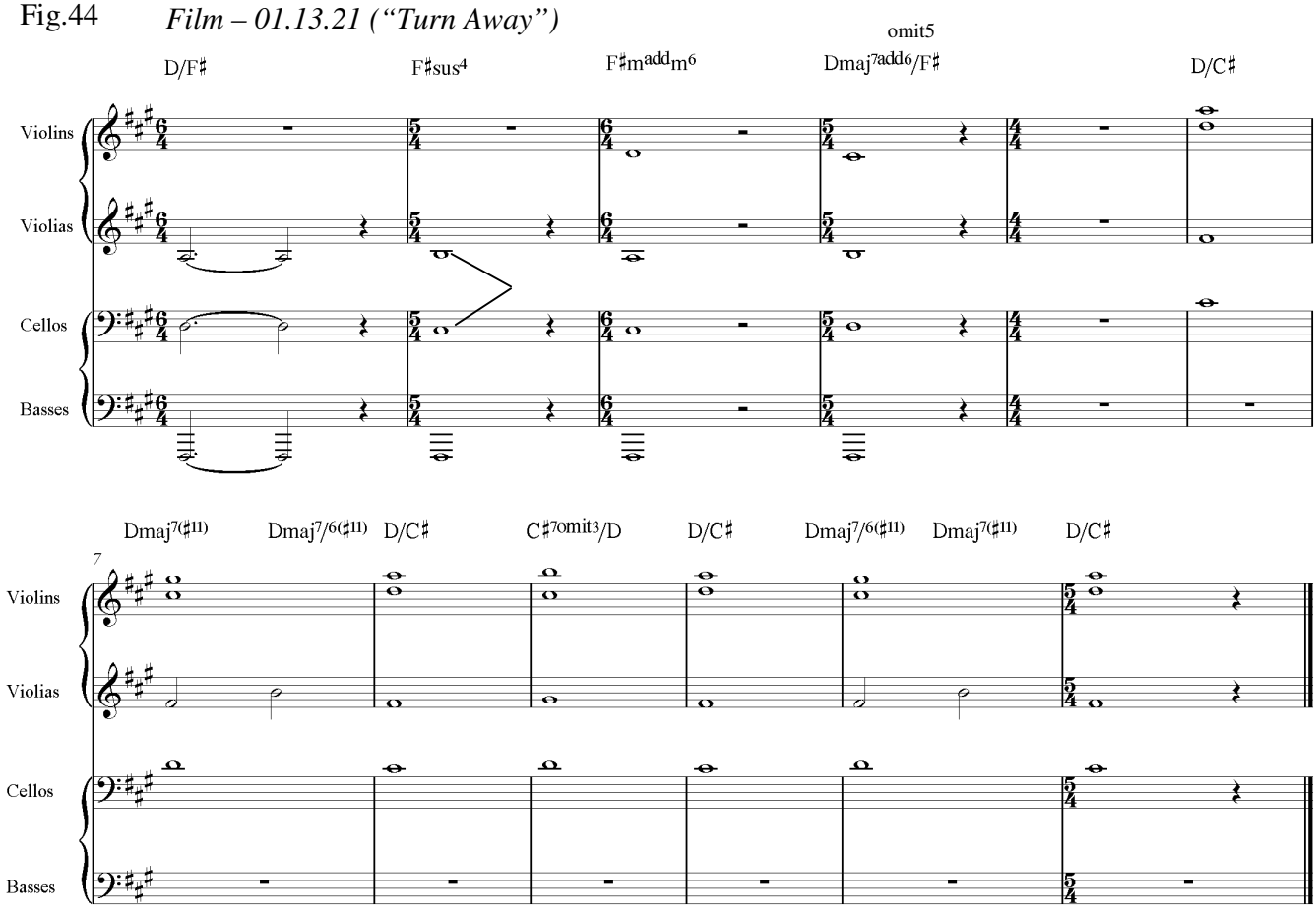
Fig.43 *Film – 01.02.48 ("Plus Tard")*



The following section plays over a reading from Donald Crowhurst's diary, in which his deteriorating mental state is apparent. In a section entitled 'My philosophy', he explains that 'The explanation of our troubles is that cosmic beings are playing games with us….during his lifetime each man plays cosmic chess against the devil…".

The transcription below explores a succession of soft-textured subtle but dramatic chords where inherent intervallic tensions are exposed and exploited. The F#sus4 chord in bar two highlights the tensions between the low C# and the B nearly an octave higher; the two notes are more obvious than normally would be the case due to the sparsely voiced nature of the chord. Bar three contains a chord which could perhaps be said to harmonically embody this documentary – the add4. Underneath the D note (4th) there is a perfectly voiced F#m containing F#, C# and A. The added D causes mild harmonic interference; the D would clash heavily with the C# an octave lower but this is mitigated by the A in the middle of the voicing.

Fig.44 *Film – 01.13.21 ("Turn Away")*

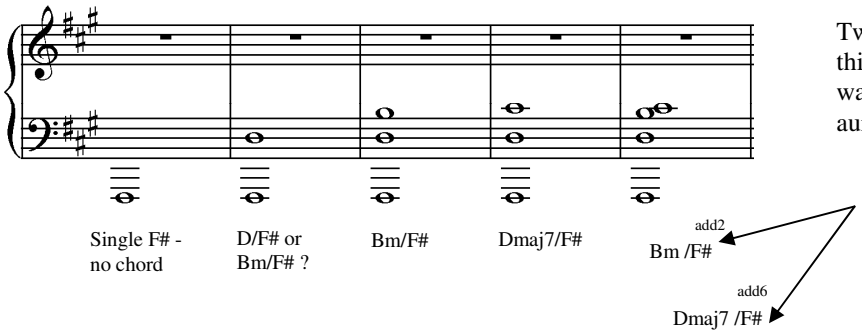


Bar four contains a chord which is slightly more harmonically ambiguous; it is described as a Dmaj7/6 with no 5th over an F# bass. Equally it could be a Bm(add2) over an F#. As I've stated before chord symbols articulate groupings of notes; they give a name to a specific harmonic feel. Normally chords are quite definite and it is rare that there are two plausible, simple and rational ways of explaining a group of notes. Chords which can be explained two different ways do not merely *look* as if they contain two different possibilities; they actually *do* contain two different ways of visually and aurally understanding something. This is often what gives such chords the kind of ambiguity they enjoy and what makes them particularly prone to be effective and expressive; they require engagement and can suggest subtly different moods. Bars eight-twelve of fig.44 display the exquisite ambiguity inherent in the score for this documentary. Looking at bar eight from top to bottom, it contains an inverted D chord over a C# bass. As a listener this creates a kind of mild confusion; one does not need to read music to feel the tension in this chord but one does need to read music in order to understand *why*; this is not just some random act of dissonance – this is taking a chord, voicing it beautifully for soft textured instruments, and then altering one note which creates mild dissonance, making us struggle to evaluate it, thus creating a dramatic, abstract and yet mildly subtle listening experience.

In the example below, which is not from the film, the chord in question is constructed from beginning to end, left to right over five bars. Beginning with a single F# we have no presumptions other than we presume it to be the root note; we have no context on whether to decide if the chord is major or minor. In bar two we have an F# and D, which tells us the F# was not the root after all, but the inverted maj 3rd of a D chord. But the chord could either be a D/F# (minus it's A - the 5th) or a Bm/F# (minus its root - the B). Bar three is an emphatic Bm/F# whereas bar four is a Dmaj7/F# (minus its 5th – A).

This is an important analytical journey because it tells us all the different harmonic possibilities, permutations (and therefore influences) this chord contains in its final form in bar five.

Fig.45



Two possible ways of describing this chord but also two different ways in which it communicates aurally

What *Deep Water* tells us most of all is three things; the use of mild and well-chosen dissonance can create real drama and emotion. Adding various chord extensions is something all composers do but sometimes omitting key basic intervals (3rd, 5th etc) *as well* can work even better. Music is sometimes at its most striking and profound when it is at its least obvious. So many of the chords Harry Escott writes are partial, broken, suspended or in some other way incomplete. Together with a combination of carefully chosen instrumental textures and effective voicing, this combination works in a profound and moving way with the pictures, narrative and narration.

Through the medium of pictures and sound we understand Donald's Crowhurst's story, but through the medium of music we perhaps understand and appreciate to a greater degree the pain and anguish of his predicament.

In the forward for this book I said if the great 20th Century film composers share one common characteristic, it is that they all write *for* the film, not *to* the film or *at* the film. To a film composer the images which accompany their music are as much a part of the fabric of the music as harmony, melody, instrumentation or production because they determine the ultimate context in which it is rationalised, enjoyed and consumed. There is no better score to prove this than the score to *Deep Water*. The music is embedded so deeply within the narrative of the film that the two communicate as one. The music does not feel as if it were 'added' at any stage; it feels as if it was always there.

Inspector Morse *Barrington Pheloung*

Inspector Morse is a commercially successful and critically acclaimed television drama featuring a sullen, morose lead character in the title role. Each episode filled two hours worth of television (about 100 minutes excluding commercials). The shows featured lengthy and extensive footage of Oxford, where the series is based – one of the reasons behind its popular export value. The thematic and incidental music is as successful as the television show; albums have sold exceptionally well. The show's music also includes adapted excerpts of classical music, weaved into the episodes expertly by Pheloung. Critical analysis of the show's music tends to be impaled largely on the re-use of classical music in a modern dramatic context and its intertwining with new orchestral music. However, the commissioned music by Pheloung is what truly gives this show its musical character and identity.

Like Harry Escott in *Deep Water* Pheloung's use of broken harmonies and occasional Pandiatonicism colours many *Morse* shows; his array of exceptionally well-crafted unfinished and suspended chords, scored subtly for orchestra, hang in the air at key points in the drama to gently and almost imperceptibly italicise scenes, situations and characters.

Chords don't always fully resolve and indeed Pheloung doesn't deal too much in chords which change wholly and completely as great harmonic blocks; moreover he subtly subverts and alters chords by virtue of the independent harmonic movement of elements within. Thus the harmonic shifts tend to be subtle, abstract and often mildly dissonant, which catch the attention of the listener and become immersed with the pictures and narrative. Pheloung concerns himself with music's vast array of largely untapped harmonic possibilities and how these can be maximized by the various textural colours of the orchestra. Pheloung's eclectic methodologies represented a different way of thinking in TV drama music when they arrived in the late 80s; until then TV drama had tended to concern itself with much simpler harmonic devices and a much more overt, duplicative relationship with the narrative structure of the drama.

'Parallelism' (when music mimics the on screen action or the narrative) is an obvious concept, whereas counterpoint allows for limited alchemy, where the reaction between the film and the music is essentially in the mind. Composers who succeed in providing music which occasionally doesn't duplicate *or* counter a scene but instead reaches an alternate perspective where it functions as an independent emotional commentary, can succeed in provoking emotions and reactions in listeners and viewers. Pheloung's music depends on the imagination of the audience to interpret it, unlike more 'obvious' music.
The audience, therefore, suddenly plays a paramount part in the process. An important point here is not just that *Morse* had such a groundbreaking score; it is that it took a TV show which was *itself* ground-breaking to illicit bold decisions from the producers, directors and composer. Arguably all episodes could have easily been condensed into an hour each. The decision to test the hitherto untried two-hour format was a decision made for commercial reasons which released great freedom and potential within the show; most of it, ironically, artistic and imaginative.

Lofty and abstract harmonic approaches such a Pandiatonicism are not frequent visitors to British television drama, which brings us back to an issue we dealt with earlier in the book: do composers simply *do* or do they *think*? Is composition simply an extension of performance or can it be a deeper intellectual pursuit? Pheloung was clearly allowed the freedom to conceptualize deeply and develop, through the many years *Morse* ran, a real potent and evolving identity. For many, Pheloung's often ethereal minimalism and unique harmonies were what truly defined the series; Pheloung had the luxury of thinking without restriction (something that not many television composers have). Because he was freed of the slavish addiction to tried and trusted formulas and the sentimentality of tradition, the two areas of composition (conception and realisation) were perhaps freed from being an instantaneous event, and allowed to become a relationship between on the one hand, thought, reflection, notion and deliberation, and on the other hand, process, development and realisation.

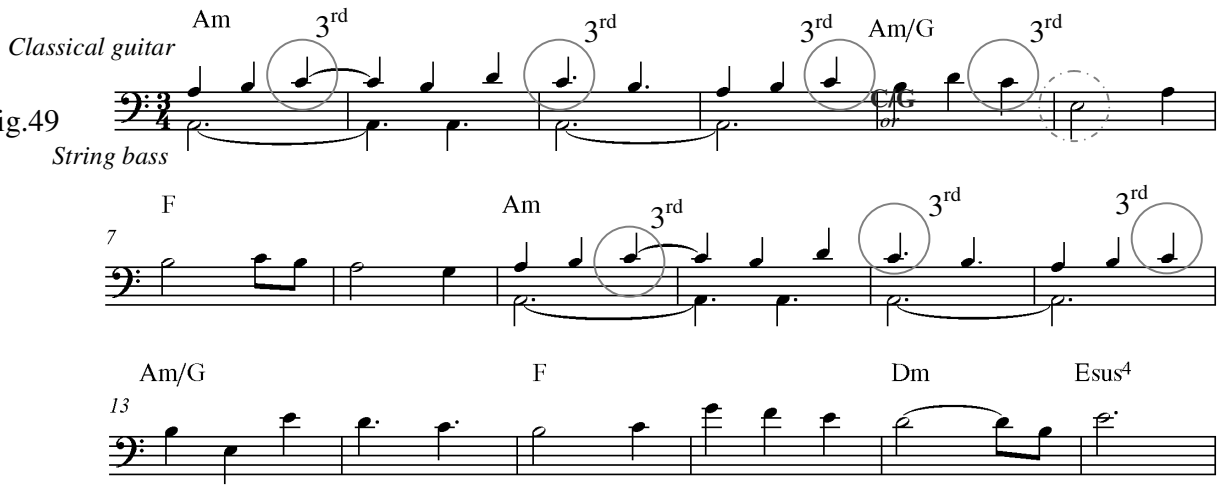
Morse's legendary dark and difficult character wouldn't have worked with pictures alone, and if formula had been followed, the music might not have done him any favours either. Commodification, formula, tradition and codification have all affected a composer's ability to think critically and freely. But some composers have been able to either convince directors to allow them to think freely, in some cases to produce ground-breaking scores, or have managed to produce scores which have evolved the art-form even from within the 'system'. *Morse* remains one of the most distinctive and critically acclaimed soundtracks in television history.

That it works so effortlessly to underscore the narrative of *Inspector Morse's* character is testament to Pheloung's touch and understanding of how to manipulate harmony and orchestration. Indeed *Morse* and the music which accompanies his life represent probably the best example of how a character has been magnificently absorbed into the music and vice versa. Music plays an important role in articulating much of what is not spoken or alluded to visually in the series, and this important fact is why many people respond to the show's original music, independent of the show itself; they didn't just like it superficially, they liked what it *meant.*

Pheloung's score *is Morse.* Testament to this fact is the success of the CD / Cassette audio drama versions of *Inspector Morse*, which feature all the audio from the episodes, supportive narration and the music. *Morse* transfers well to audio-only format because in many ways the original music to the episodes is so distinctive and descriptive.

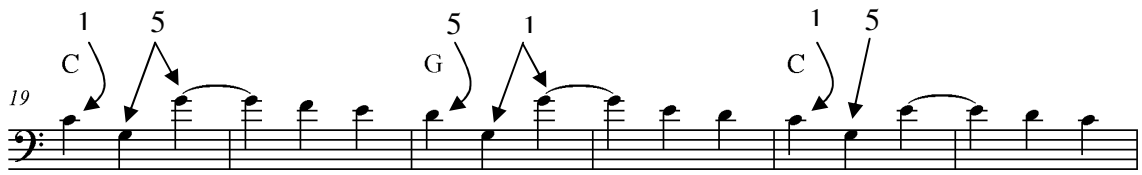
Turning now to the theme tune from *Inspector Morse,* we will examine the firstly the melody. Below is an abbreviated transcription of the melody for two of the main sections in the theme. The first thing of interest is the delicate and anticipatory nature of the theme; firstly there is the interplay between the bass and melody in bar two with the bass gently anticipating the guitar. This rhythmic interplay adds some effective context to the theme. The 'pushed' element comes into play again in bar three where the guitar melody itself is anticipatory and pushed. It's no accident that the first two-beat note (which crosses the bar line too) is a min3rd; 3rd intervals, as we have established before, are primary descriptive intervals. Their presence in harmony literally describes and identifies a chord as major or minor. Accenting this melodically lends the piece subtlety, familiarity and warmth.

Fig.49



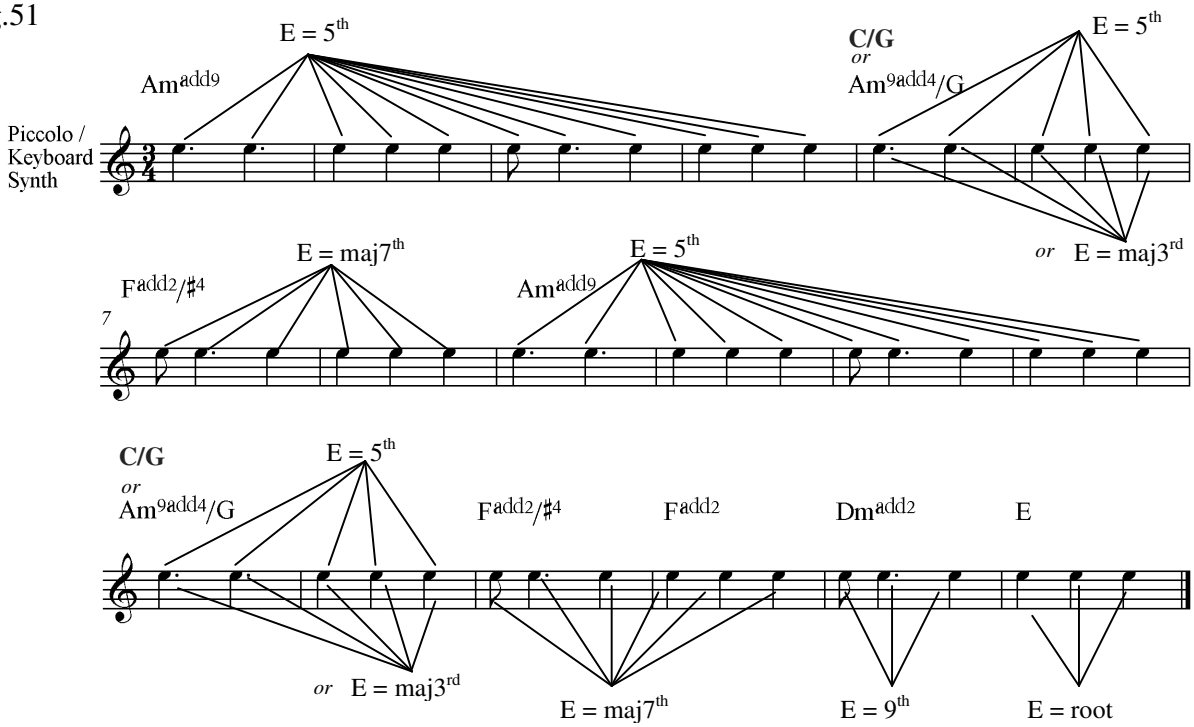
Accentuating the gap between the C note in bar five (of fig.49) and the subsequent E note at the beginning of the next bar is the rich min6th interval. Also, because the Am/G has a similar 'sound' to a C/G, the E note has two potential functions, or perceptions, in terms of how it 'sounds'; it can function as the 5th of the Am/G chord and it can 'sound' like it's the 3rd of a C/G chord. The second part of the theme (below, fig.50) is interesting because in contrast to the first eighteen bars the theme accentuates roots and 5ths – intervals suggesting strength, authority and power. The distinction between the two contrasting sections helps the different emotive elements inherent in both sections come through because it highlights the variation. This section, with the inherent strengths of the roots and fifths, might be described as the 'chorus' to *Inspector Morse.*

Fig.50



The guitar solo theme from *Inspector Morse* is abbreviated in fig.49 but the example below (of the same theme) focuses on the repetitive 'Morse Code' piccolo / synth line, which remains constant musically but from an intervallic perspective is constantly on the move; this is why the line never becomes monotonous or predictable – because its intervallic context is constantly changing. This interplay between actual musical sound and intervallic movement means the line has two different but simultaneous realities. Also because of the dual perception of the accompanying chords in bars five-six and thirteen-fourteen the E note actually has two possible intervallic realities.

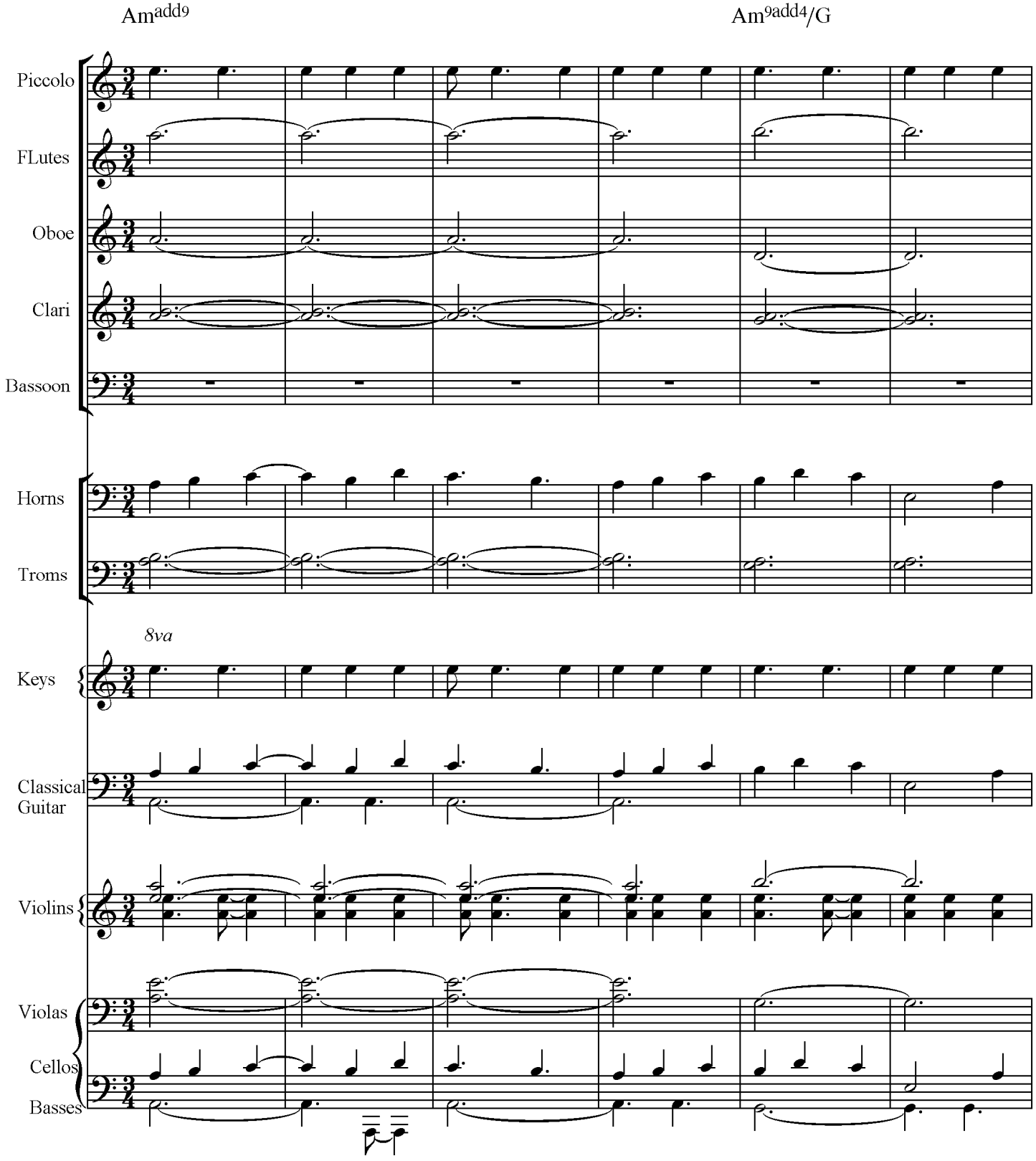
Fig.51



There would be little point in highlighting something as abstract as the relationship between the pitch of a note and its intervallic context (what something sounds like and what it represents in a much bigger harmonic perspective) purely for academic or theoretical purposes; my point, as always, is that we hear a combination of the actual sound and its intervallic context and this represents how we rationalise and listen. A person does not need to be even remotely aware of the complex harmonic dynamics in order to be a beneficiary of their effect. Although the 'sound of the note' – our primary and most obvious musical reality - remains on one note (E), the intervallic context changes ten times and has six separate realities. The intervallic context – the other reality – has an entirely different journey from the sound it makes, which remains static.

Moving to the orchestration and instrumentation present in the theme from *Inspector Morse* we can see once again the subtle ways in which Pheloung weaves suspended and incomplete harmonies, littered with extensions. On a surface level (e.g. the simple transcription in fig.49) the theme seems simple enough. But detailed harmonic analysis reveals some of the reasons why the piece communicates and how it weaves its various subtleties.

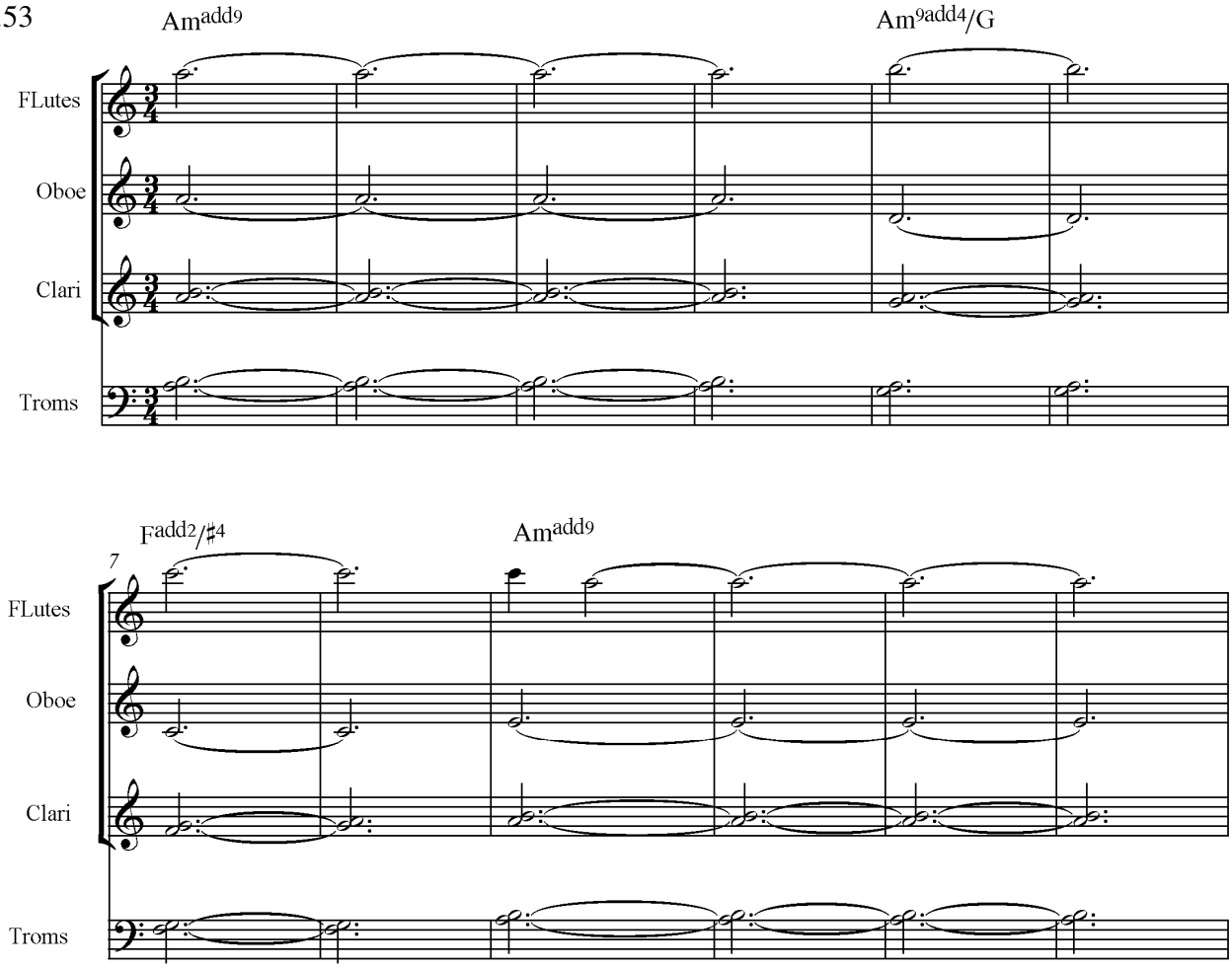
Fig.52 *Audio – Inspector Morse Theme 01.11*

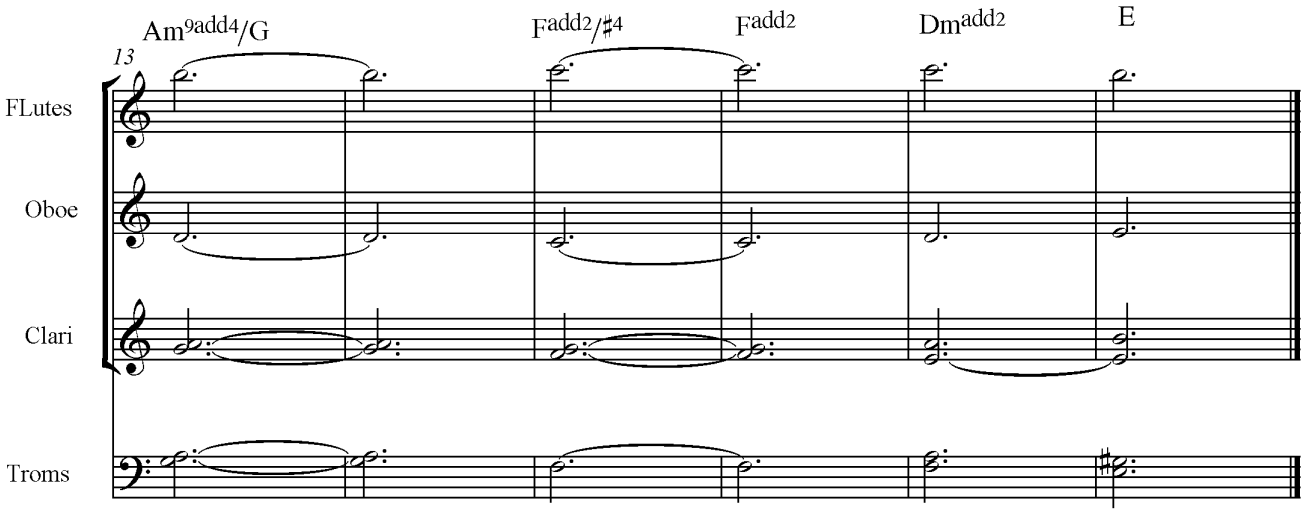


If the music actually *was* as simple as the theme suggests it would not have been as successful in relaying so well the delicate and complex intricacies of the *Morse.*

Below is full orchestral transcription of two small sections of the theme. The first is about halfway through when the theme re-appears with full orchestral support. The first thing to note about the orchestration is that the minor 3rd in the Am chord only comes from the melody of the guitar supported by the cellos. Despite the labyrinth of chordal orchestration there are no thirds anywhere. There are plenty of bare fifth (A-E) intervals and sus2 (A-B) intervals. This is a really important point because it underpins the reason the theme has a delightful richness; the warm thirds penetrate the orchestration because they are not replicated and 'overcooked' in the voicings, which might have led to more of an overtly romantic, even melodramatic feel. With regard to the various suspensions inherent in the orchestration which I alluded to earlier it is perhaps appropriate to look at the instrumentally abbreviated transcription below. This features woodwind and brass accompaniment to fig.49 and has had the instruments that carry the melody removed to enable us to see the orchestration clearer. Trombones and clarinets playing root and major 2nd with the flutes playing the 'A' on top is quite odd; we are used to extensions being towards the top of a chord. Even when extensions are buried within, having the root note exposed on top of the chord isn't done very often. To add to the ambiguity the lack of any 3rd in the instrumental harmonies exposes and italicises the 2nd. Pheloung has retained a simple melodic device (detailed in fig.49) which hits the 3rds but he has starved the orchestration of the normal and predictably supportive colour we usually hear (fig.53).

Fig.53

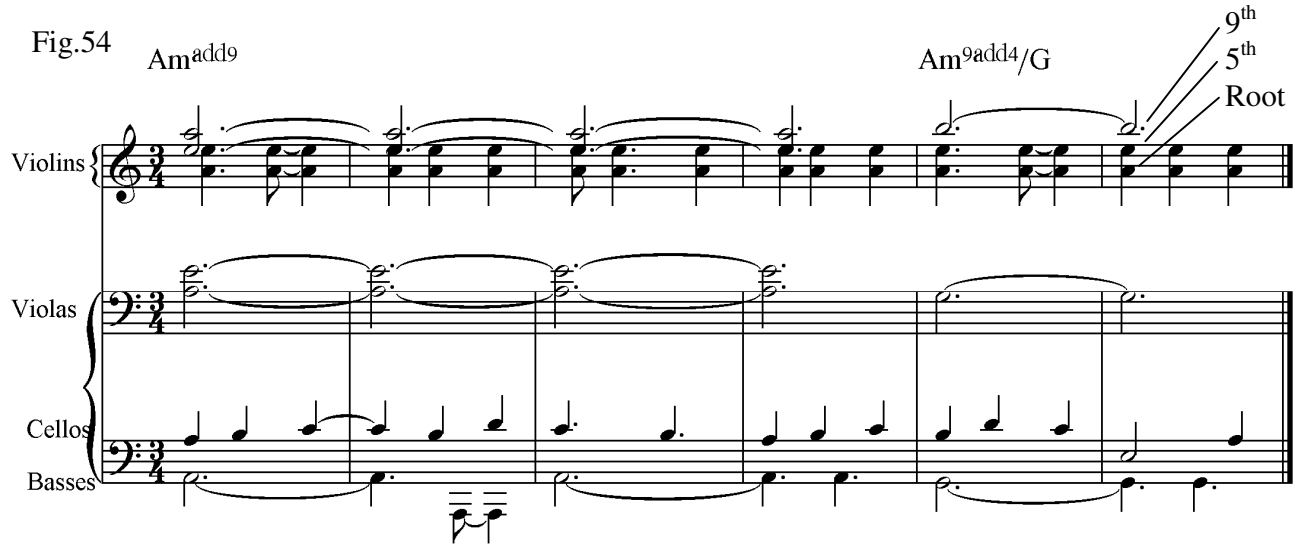




Another interesting ingredient in the theme's arrangement is the way the different elements of the string section work separately (harmonically and rhythmically, scored below, fig.54). Cellos double the guitar melody whilst the basses function as the anticipatory bottom half of the melody. 1st violins play bare harmonies whilst 2nd violins are divided and replicate the piccolo and 'Morse Code'-esque synth line with bare root-and-fifth lines. The vivid counterpoint and lack of a more typical, homogenised chord-based 'string section' sound is another element which lends a sense of opaque, translucent subtlety.

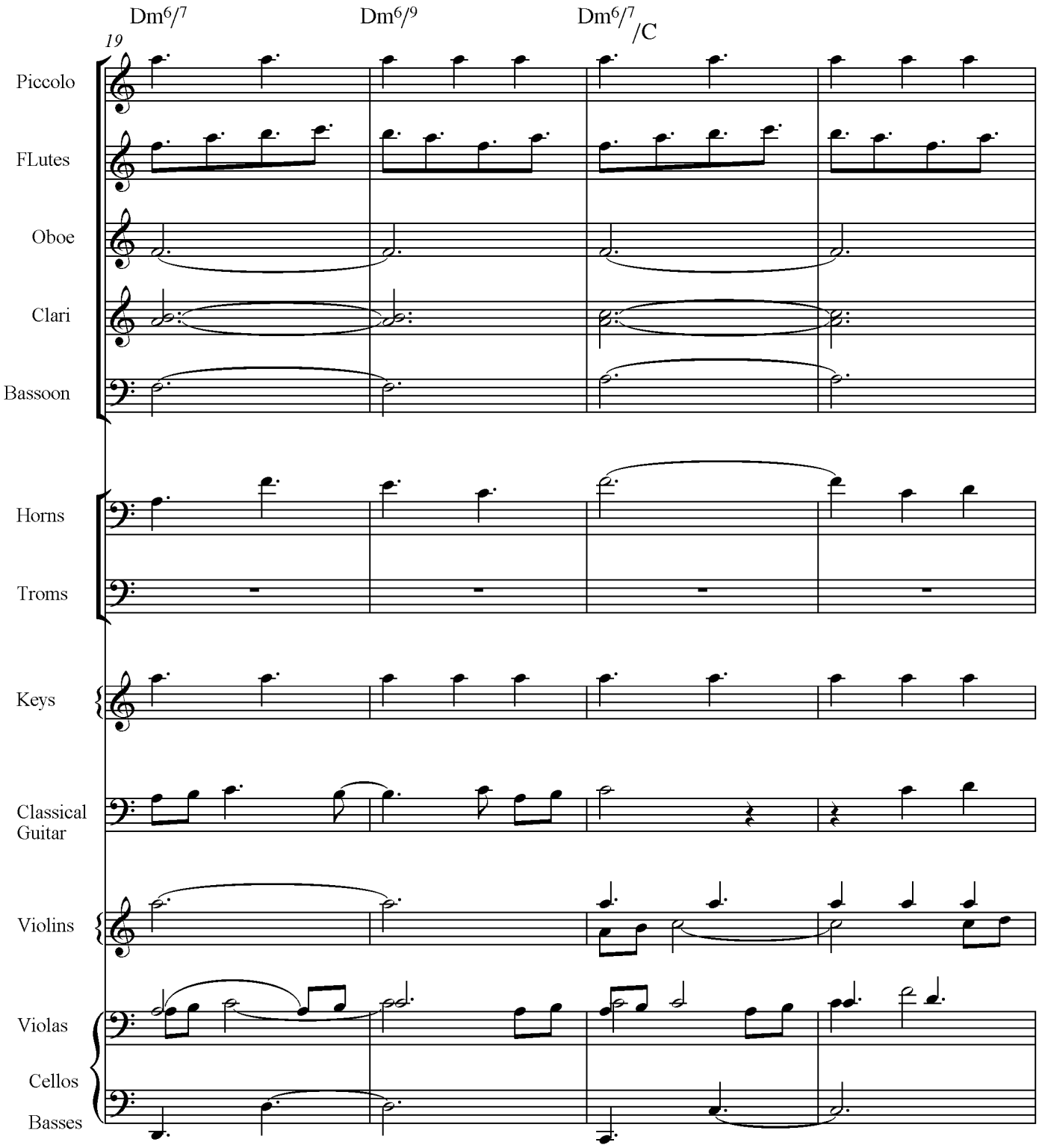
The string voicings in bar six also add to the sense of harmonic variety, particularly the violins, which together harmonise the Am9 minus its 3rd and 7th, giving it a stark, bare character devoid of identity. The low A and high B (a 9th) in particular are responsible for this. Normally a 9th chord would contain, along with everything else, the 3rd and 7th, which the violins do not. The three violin lines are a fifth apart from each other, lending the sound a bare 'squareness'.

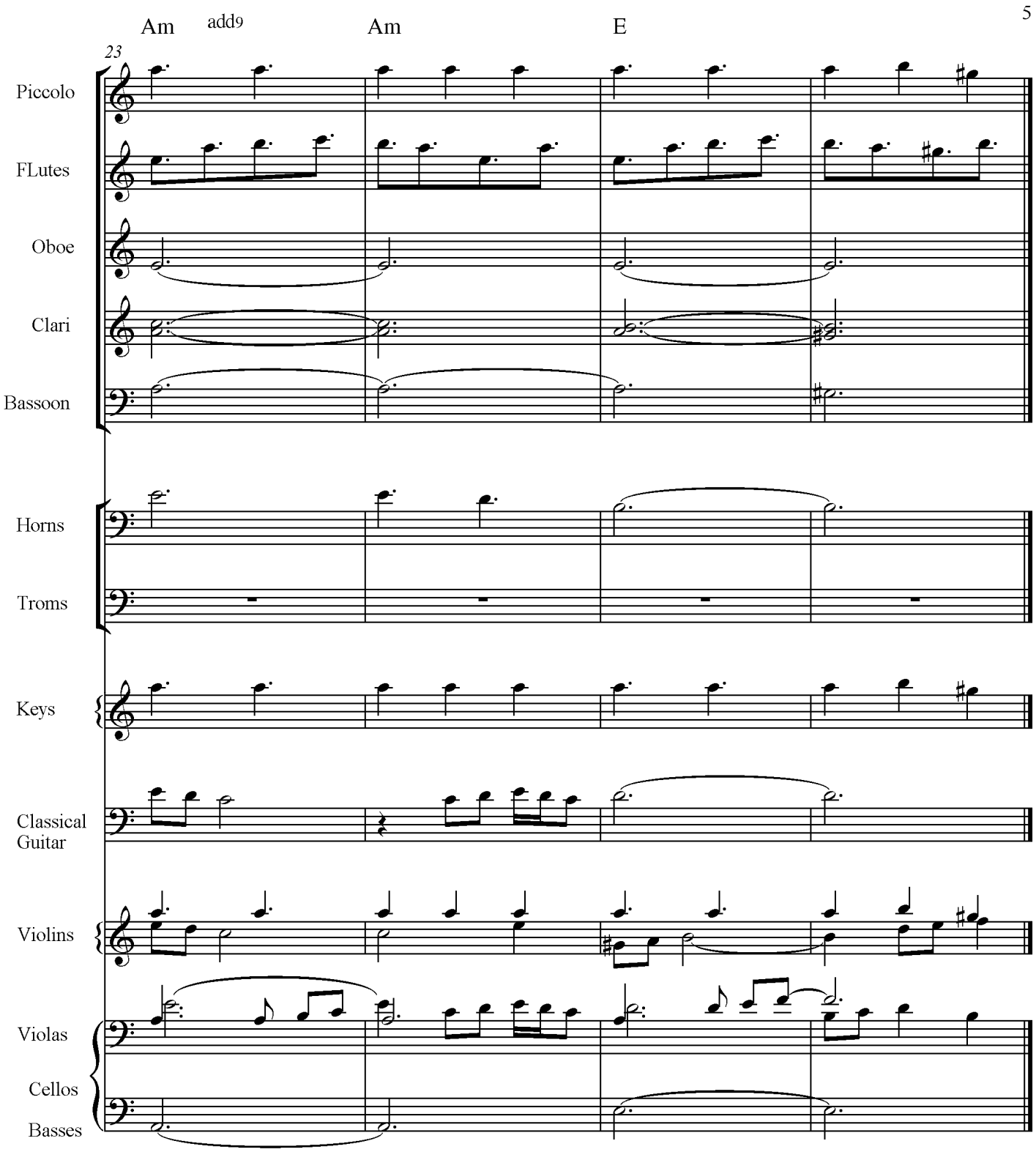
Fig.54



The following section, which contains a full orchestral transcription, is from the development section where the piece briefly modulates to Dm. It too contains some interesting and vivid harmonies, voicing and orchestration.

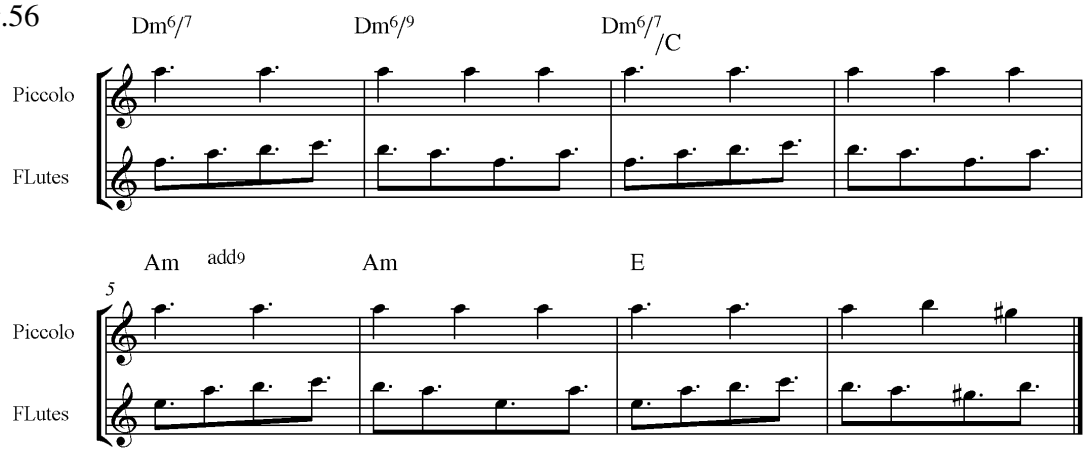
Fig.55 *Audio – Inspector Morse Theme 01.01*




Am
add9
Am
E
5
23
Piccolo
FLutes
Oboe
Clari
Bassoon
Horns
Troms
Keys
Classical Guitar
Violins
Violas
Cellos
Basses

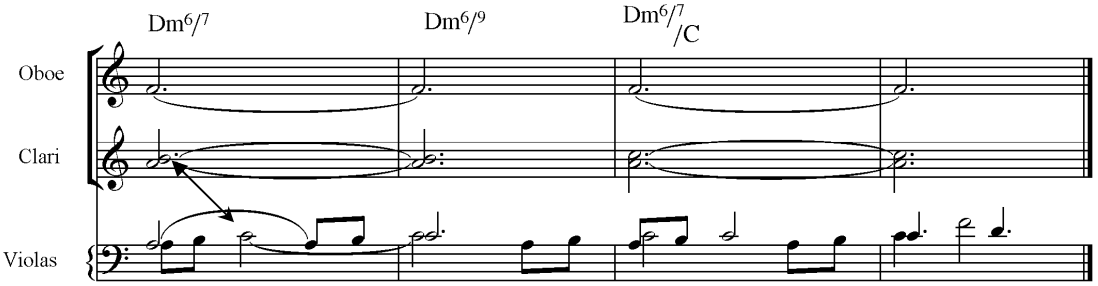
Again, if we examine the orchestration in fig.55 in detail we find small clues which explain how and why the arrangement works so well. The off-beat French Horn melody line mimics perfectly the anticipated elements in the classical guitar melody from the earlier section of the theme. The constantly pushing melody is extremely effective in creating the sense of momentum and drama. The 'Morse Code' motif is shared by piccolo, synth and some of the string section. The motif is embedded in the arrangement, not simply impaled on a singular texture or instrument. Also the rhythmic tension - the clash between piccolo (playing the 'Morse Code') and the dotted quavers on flute (bar two, four, six and eight, fig.56 below) – works extremely well, creating some really vibrant colours in the arrangement.

Fig.56



The subtle harmonic tension caused by clash between B (the 6th on clarinets) and C (the 7th on strings) shown in the reduced transcription below, is also particularly effective. The major 7th interval between the C (7th of the Dm) and B (maj6th) works well in dramatizing the chord.

Fig.57

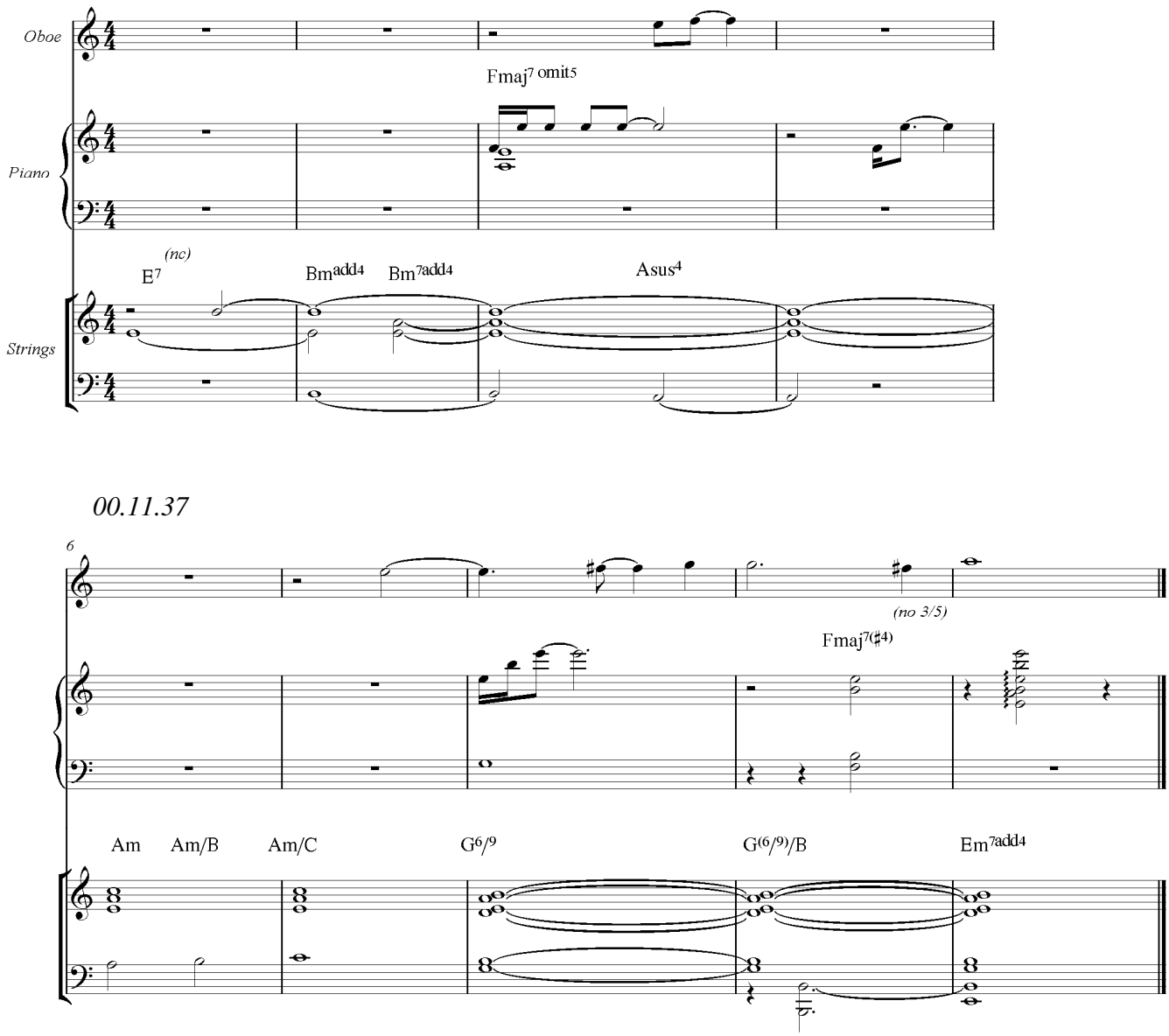


Pheloung's eloquent and emotional score for *Morse* is evocative, communicative and expressive. The delicate harmonic tensions, unresolved chords and vivid orchestrations give *Morse* a distinctive and memorable musical dimension which evokes real and tangible emotion. Rarely is television drama such a product of its music.

The following transcription is from a scene which takes place ten minutes into an *Inspector Morse* episode called *The Way Through The Woods.* Inspector Morse is sat in his office, irritated and typing reports, but his mind wanders to a previous case which has resurfaced due to the death of a murderer in prison. Just as Morse stares into space, reminiscing, the scene cuts to a petrol station forecourt, the relevance of which will be realised later in the episode. Sometimes scene changes cannot help but be visually quite abrupt; music is what helps normalise them. Scene changes/edits often infer time changes or location changes. Without music these edits might often seem stark and obvious, even when 'establishing shots' are used.

The music for the *Morse* scene-change is beautifully non-committal and non-judgemental in that it has no absolute definite harmonic identity, just a sequence of oblique softly dissonant harmonic interactions, moving like shifting sands. Into this slightly abstract reality comes the interpretation of the listener / viewer, who experiences the dramatic effect of music and pictures. The overlapping harmonies create a lush but light, pandiatonic harmonic flavour and texture.

Fig.58 *Audio track, 'An Evolving Mystery' – Film, The Way through the Woods, 00.10.35*

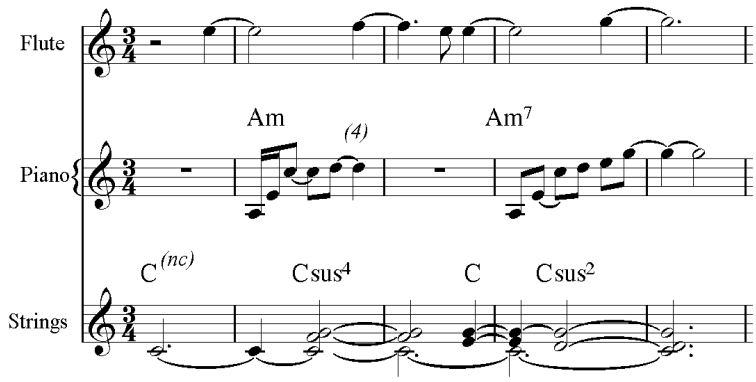


The E and A string notes in bar two (7th and 4th of Bm chord) carry over into bar three where they can be interpreted and heard either as a continuation of what they were or as the maj7th and maj3rd of the Fmaj7 chord (which the piano and oboe implies). The first four bars of the sequence binds together chords which only have a passing resemblance to one another.

Like an impressionist artist blurring the distinctions between colours and contexts, this kind of composing blurs the traditional boundaries and allows for great interpretation. The fact that this interaction has a dual harmonic context is precisely what lends it a slightly mesmerising personality. At 00.11.37 into the piece (still fig.58) the scene cuts back to Morse, who is now busy looking through a filling cabinet before finding the file he's looking for.

Once again the sequence displays the distinctive intricacies and harmonic dynamics which typify Pheloung's approach to underscoring drama. The G6/9 string chord voicing in bar eight is interesting; normally chords which contain extension intervals such as 6, 9, 11 etc, are 'smoothed out' to ensure that extensions sit 'comfortably' in the chord. I say this because composers sometimes imagine that in order to create harmonic tension they have to stray outside the norm in terms of the extensions they choose, but in some cases what can create discreet subtle tension is the *order* and *placement* of 'normal' intervals and extensions. It's often not the interval or the extension but the surrounding terrain which contextualise them so well. If we look at the string chord in bar eight and in particular the gaps between the notes, we find it contains two separate major 2nd intervals; the D next to the E is fairly normal but the exposed A (9th) next to and B (3rd/10th) contains a little tension because it is slightly higher and more exposed. Also bar nine of the piano part is interesting; beats 3 and 4 contain the Fmaj7 (#4) chord with no 3rd or 5th which runs alongside the G6/9 string chord underneath, giving us the slightly clustered tension between the notes E and F. Add to this, at the end of the bar as the F note is dissipating, the F# on Oboe, which clashes subtly with the F on piano. This *Morse* transcription and clip show how music fulfils a crucial role in that it succeeds in bringing together three scenes into one 'narrative arc'. The music, quite literally, consolidates the narrative and tells the story. A little later in the same episode similar music is used to great effect during a scene change; Morse and his assistant Sergeant Lewis have a conversation, the end of which results in Morse staring intently as he is made aware of something crucial to the case. Music begins as the scene changes and we see a long shot of Morse and Lewis from the perspective of an upstairs window where we also see another man making an important phone call (fig.59).

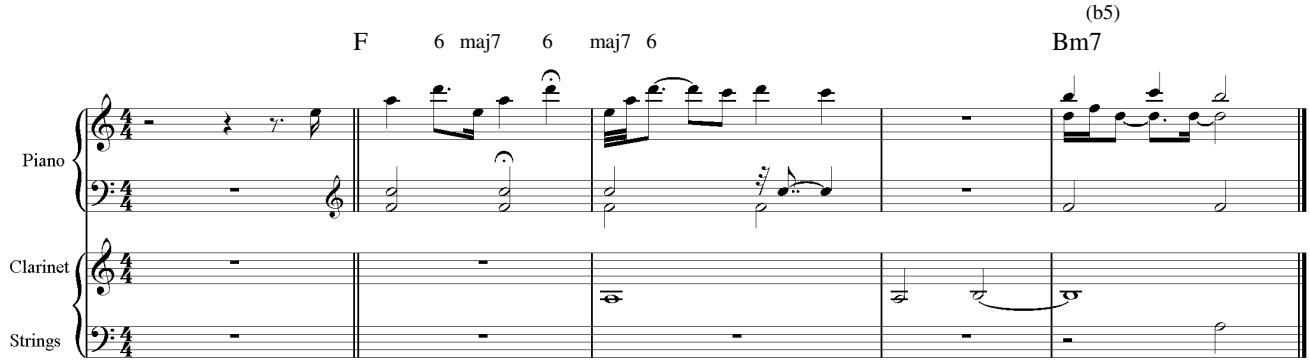
Fig.59 *Inspector Morse - The Way through the Woods, 00.29.09*



The interaction between the implicit Am arpegiated piano part and the Csus4 string chord (i.e. the tension between the notes of E and F in bar 2) is particularly effective.

The following brief excerpt of a track entitled *Gothic Ritual* is typical of Pheloung's light brush strokes of incidental writing. This comes from an episode called *Second Time Around* and as is often the case, placement is everything. Morse is having a conversation in which he is being reminded of the murder of a young girl several years ago. The character talking to Morse becomes quieter and obviously moved by recollecting the murder. During the scene Morse, who was involved in the original investigation of the girl's murder, realises a major link to a current murder investigation. Used in this brief scene the music is absolutely pivotal in articulating the drama and poignancy of the underlying narrative.

Fig.60 *Audio track, 'Gothic Ritual' - Inspector Morse 'Second Time Around', 00.36.38*

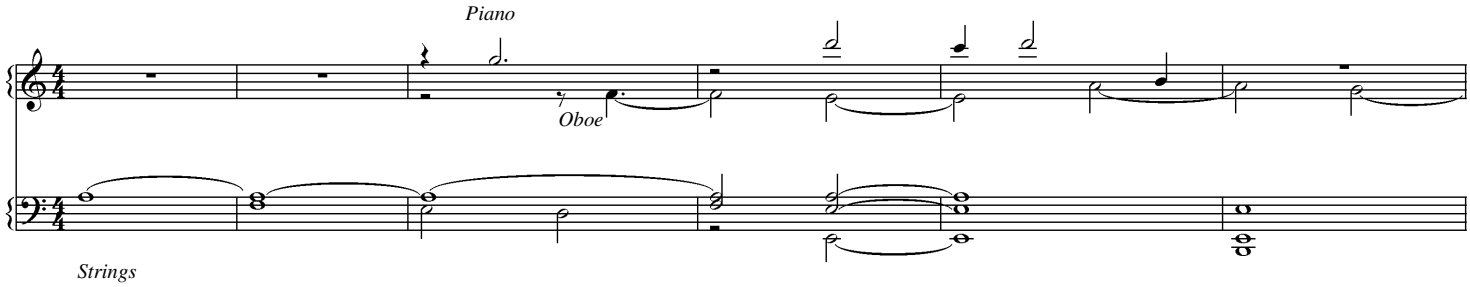


From a sound and texture perspective the piano perhaps reflects the innocence of childhood but the music transmits emotionally by virtue of its apparent surface level simplicity which belies some of the more complex harmonies underneath. In the second bar we hear the F chord and the D note (6th). Because the maj3 is high, outside the main chord, and because the 6th isn't present in the body of the chord but instead an octave higher in the melody, it doesn't always 'sound' like a classic '6' chord. Bar three reflects one of the real triumphs of Pheloung's writing – the ability to take a chord and then evolve it by adding notes which make it harder for us to recognise and classify, lending the sequence an ethereal 'distant' quality. He blurs harmonies gradually and subtly. Because the music is less easy to rationalise 'as music' we are less inclined to zone-out and the music instead becomes a dramatic part of the picture; we hear and see as one action, not two separate actions.

In bar three specifically the piano arpeggio E, A and D works well. Because they are arpegiated we hear them almost as a chord. Normally we wouldn't hear a 6th and maj7th in a chord together; they fulfil different harmonic roles and offer subtly different harmonic flavours. But the maj7th and maj6th so close, arpegiated, create a very subtle friction and the existence of the inverted bottom A on clarinet (together with the brief E on piano) points slightly towards an Am feel. Once again this duality of perception is one of the things that make the music slightly trance-like and so able draw the listener in.

The following short excerpt is from a cue entitled 'Painful Admissions' from the *Morse* film *Deadly Slumber*, and again is typical of some of Pheloung's most communicative writing styles and approaches.

Fig.61 *'Painful Admissions' from 'Deadly Slumber' (Inspector Morse)*



The piece displays Pheloung's use of the sus4th and 7th in chords (the A and D notes in bars four and five). The sus4 (replacing the 3rd) always blurs harmonic clarity of chords because they suggest neither major nor minor.

The addition of the 7th is crucial: normally the 7th interacts with the minor or major 3rd to give it its final colour; a 'D' note (7th) over an Emin chord is a different experience than the same 7th over an Emaj chord. The reaction between 3rd and 7th is crucial to how the 7th 'sounds'. With this in mind, the gap between the sus4 (A) and the 7th (D) above gives us a bare 4th interval, which sounds a little stark and 'square'. Placing an A note and D note over an E pedal effectively mean there are more extensions than primary intervals; the chord is square, bare and 'extension heavy' and is less clear because of it. The addition of the lower B bass note underneath the E bass note (bar six) create sonic blurring (lumpy voicing) which distorts the harmonic clarity. In this context this works because we've already had the chords distorted so we are more receptive than we might otherwise be.

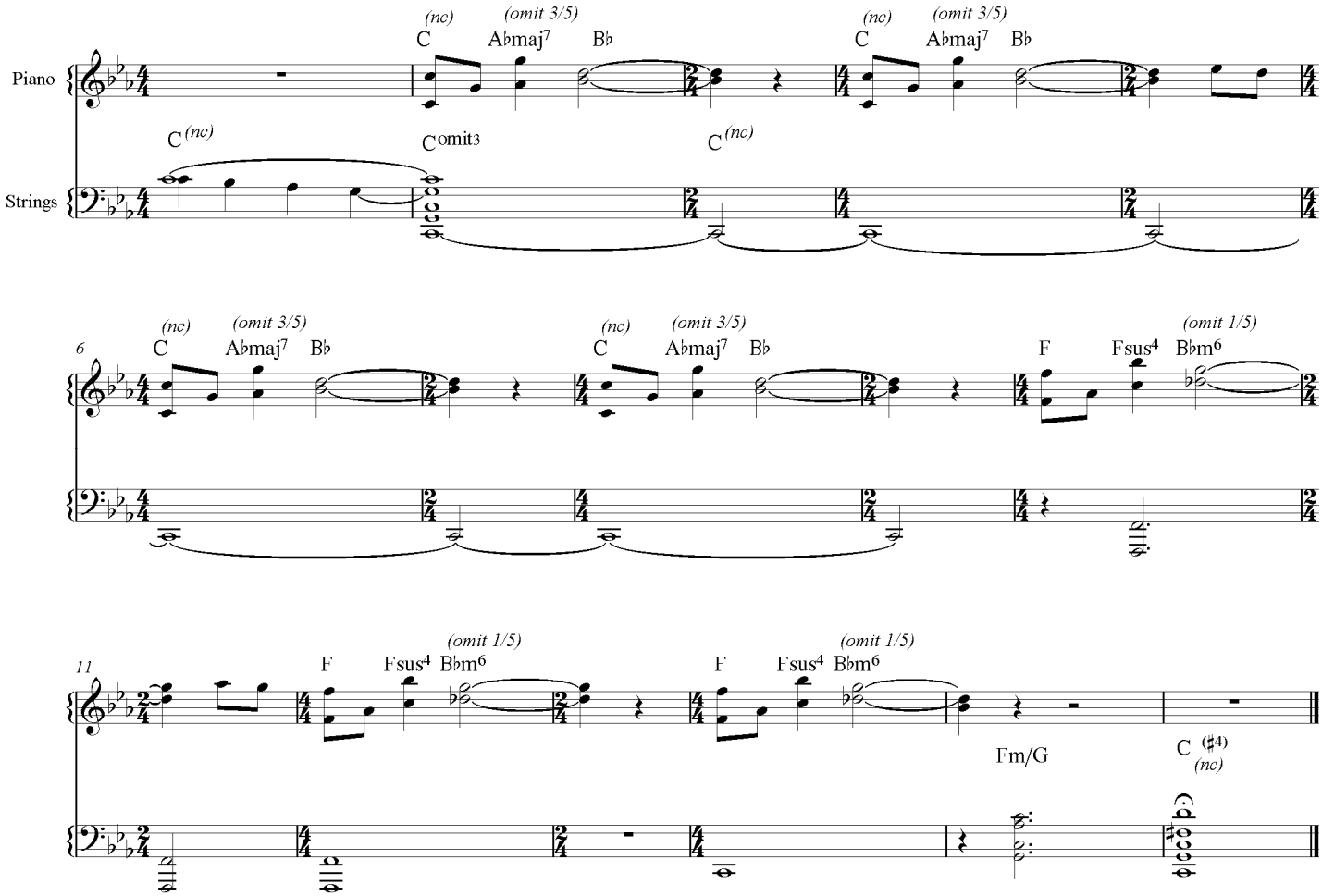
In conclusion, Pheloung's music for *Inspector Morse* will be seen historically as a defining moment in the history of music for television drama. The deep level on which the music engages the listener/viewer to inform their opinion and widen their emotional responses to the narrative of *Morse* is something which is virtually unsurpassed. The music of *Morse* is so much a part of who the character is. So much of Morse's character is often difficult to articulate visually or through dialogue. Never before or since has music been such an integral and essential part of the drama.

Inspector Lynley Mysteries *Andy Price*

Inspector Lynley is a BBC television drama featuring Scotland Yard Detective Inspector Thomas Lynley, who is also titled – being the 8th Earl of Asherton. Although being principally a crime drama series much of the narrative deals with personality and class clashes between Lynley and his police partner Barbara Havers, who comes from a distinctly working class background. The transcriptions below come from an episode entitled *Limbo*, in which a young child belonging to friends of Lynley disappears during a party which Lynley attends. 12 years later the boy's body is found and Lynley meanwhile has begun drinking following the death of his close friend Helen. The camera pans round Lynley's grand apartment overlooking the River Thames as Lynley himself sits, depressed, drinking wine. The phone rings with what turns out to be news about the discovery of the boy's body.

The key issue for us is, as always, how does the music accompany the scene? What is its function? What role does it play? What exactly is the right kind of feel, emotionally, for this scene and how does a composer articulate that musically? How does the music manage to play it sensitively and not overcook it?

Fig.62 *Inspector Lynley Mysteries -'Limbo'- 00.03.14*



The first thing we can see and hear is that although the first bar is notated as an 'nc' (no chord), the notes that 'cascade' from the first C note (C, Bb, Ab and G) are heavily implicit of Cm. This is yet another case of *implied harmony;* there are no major or minor 3rds in the bar, but as we know, the notes of Bb and Ab are found in the scale of Cmin not Cmaj. So the Cm feel is inferred, unspoken. This is one thing which evocative television drama music occasionally does; definite chords and absolute harmonic statements are important in drama but in terms of scoring delicate scenes which are visually subtle but emotionally charged, sometimes a more delicate, restrained and ambiguous approach works. Absolute harmony tends to be distractive whereas less obvious harmony can be *absorbed* rather than heard.

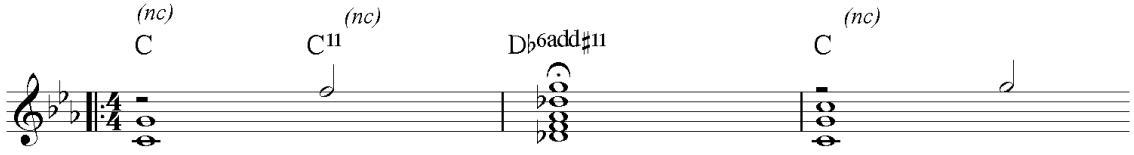
Further examples of this approach can be found in this transcription: bar two features a C chord minus its 3rd in the low-mid strings whereas the reverbed piano line features various broken or incomplete chords; as an example the Abmaj7 minus its 3rd and 5th works well here precisely because the notes of that chord which are stated (the Ab and G) represent and root and major 7th, creating a stark, mildly dissonant feel. What *would* be the maj3rd of the Abmaj7 chord (the C note) is busy on the lower stave functioning as a Double Bass pedal note. This fusion of incomplete harmony works to make the music much more open to interpretation. The rest of the piece continues in this vain with a solitary pedal note on Double Basses. Curiously more harmonically self-contained or obvious (major or minor chords, orchestrated for strings and / or piano for example) would detract from the scene because it would give it an absolute, unequivocal emotion; a point of view. Something so obvious can often turn subtle drama into melodrama. Music for this kind of scene should function like blotting paper does to ink – music should let the visual drama bleed into it so the two can function as one.

If we look at fig.60 one more time (bar two) we can see that the three chords stated / implied go from the bareness of a Cnc to the mild dissonance of the bare maj7 (Ab-G) on piano, finishing with the relative 'niceness' of a Bb/C. The bar therefore has its own emotional arc ('bare', 'mild dissonance' and 'nice'). It's easy to lose sight of how the structure of music weaves its way into our perceptions; try playing that bar in that scene with a series of three bare chords, or a series of three mildly dissonant chords or a series of three nice chords. Music, like most things, is a journey; an emotional arc. The point is not that the bar contains three different chords, thus giving us variety; the point is that the three different chords do three different jobs whose collective function is to take us on a barely perceptible mini-journey.

In the next scene from the same episode, Lynley is being lead upstairs to see the dead boy's room in the house belonging to his parents.

Inspector Lynley Mysteries -'Limbo'- 00.11.13

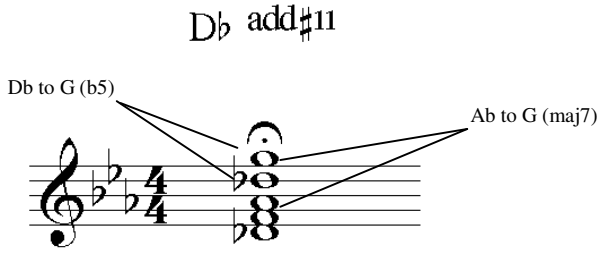
Fig.63



This scene features some emotive and enormously effective harmonies; these are much more definite and less open to interpretation because the scene is a much more visually obvious and less interpretative. And yet the chords definitely suggest difficulty and tension. Once again the opening C chord is simply root and 5th but this time the extra note which appears on the third beat (11th) could have come from either a major or minor scale of C so therefore, and cleverly, there is no implicit harmonic suggestion.

Bar two of the phrase (highlighted below) is an interesting and extremely filmic chord. If we examine this chord in isolation there are many ways it communicates emotionally.

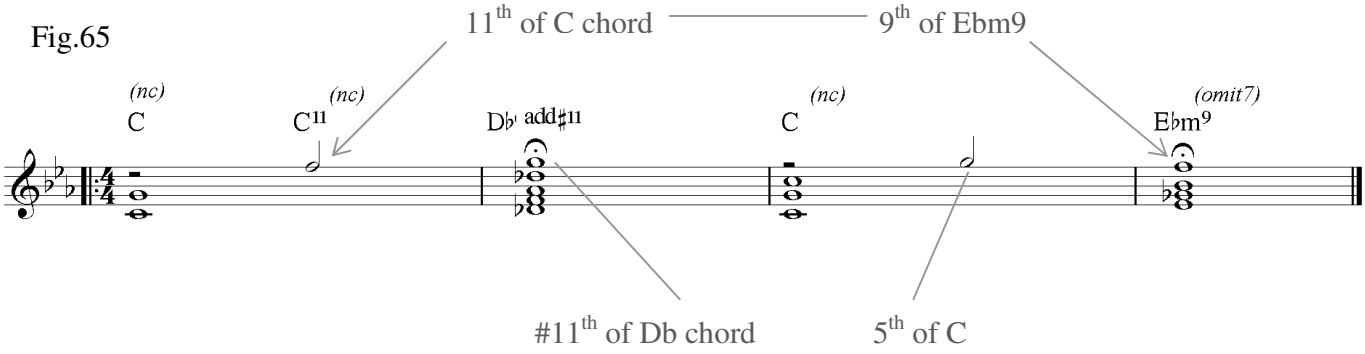
Fig.64



Although on face value the bulk of the chord is simply a Db, which, scored for strings in root position, is quite normal and even serene. But the added #11 actually creates much more internal harmonic dynamics and tensions than might be imagined. These are what really give the chord substance and drama. The interval between the middle Ab and the top G is a maj7th and the gap between the higher Db and the top G is a flattened 5th.

Because listening to and digesting music appears to essentially be a linear experience, with certain points communicating in different and unique ways, we tend to think that any chord or note owes its characteristics to whatever harmony surrounds it at that time. But the effects of harmony can be a cumulative, compound and exponential as we have alluded to in this book elsewhere. With this in mind, if we take a look at the relationship between the different contexts in which the notes F and G appears, it can be quite revealing.

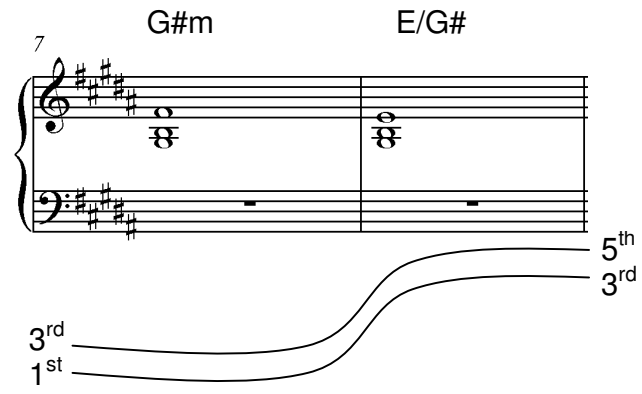
Fig.65



The interaction between the different contexts of the F and G are just as important to how this sequence communicates as the 'vertical' harmony. Put simply, we hear the notes but we *also* hear the context.

Below two seemingly simple chords are transcribed. The chords *are* simple but because of how the nature of harmony is structured, the reason behind *how* they communicate and interact is more complex than people think.

Fig.66



The two parallel line (left) display the notes G# and B contained in both chords. The notes are constant but their intervallic context changes. In bar one they represent the root and min 3rd whereas in bar two the same notes represent the maj3rd and 5th of the new chord

The two wavy lines to the left are a visual representation of how the two static notes evolve intervallically.

Exploiting our preconceptions

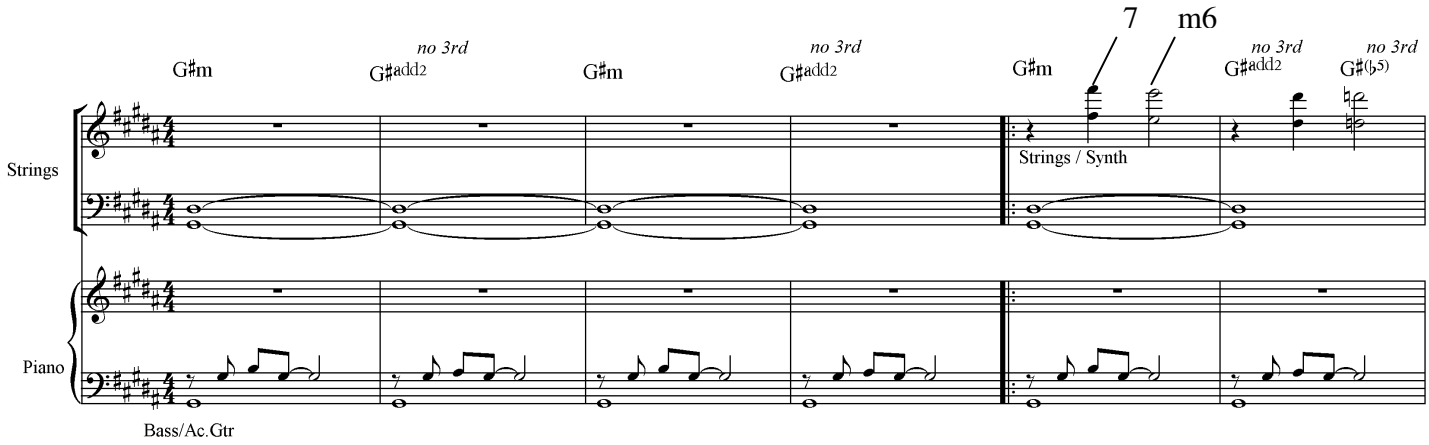
Hearing the first chord (G#, B and F#) even though is possesses no 5th (D#) we would rationalise it as a G#m. In the next bar we now rationalise the bottom two notes differently purely through the physical change of the top note of the chord (i.e. the F# has moved down to an E).

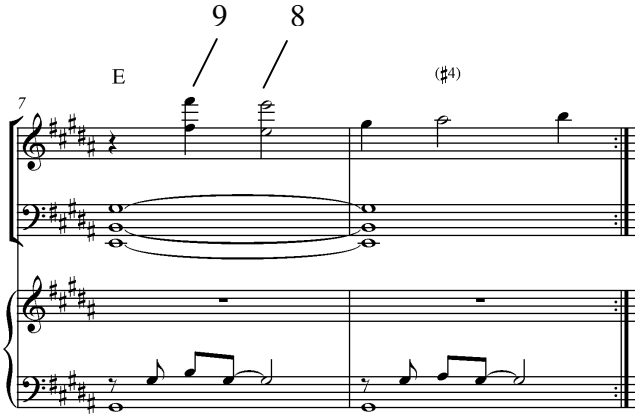
This is an interesting issue to observe because it boils down to how, as individuals, we are led by our presumptions and seduced by our preconceptions. We did not hear the first chord in fig.64 as an inverted Eadd9 chord because with no other information before it, we assumed the root note of the voicing *is* the root note of the chord. To hear the first chord as an Eadd9/G# we would have had to presume an awful lot. I scored out the chords in fig.64 as a prelude to analysing *Dexter*, which features exactly the same chords.

Dexter *Rolf Kent and Daniel Licht*

Dexter is a unique, original and abstract American television drama series, revolving around the complex life and times of Dexter Morgan, a bloodstain pattern analyst for the Miami Police who, in his spare time works as a prolific serial killer. The 'Blood Theme' from *Dexter* is a theme which trades heavily on our preconceptions and presumptions. The G#m in bar five contains an E as the second melody note; something which sounds uncomfortable because of the clash between *it* and the D# (5th) note.

Fig.67 *Audio – 'Blood Theme'*



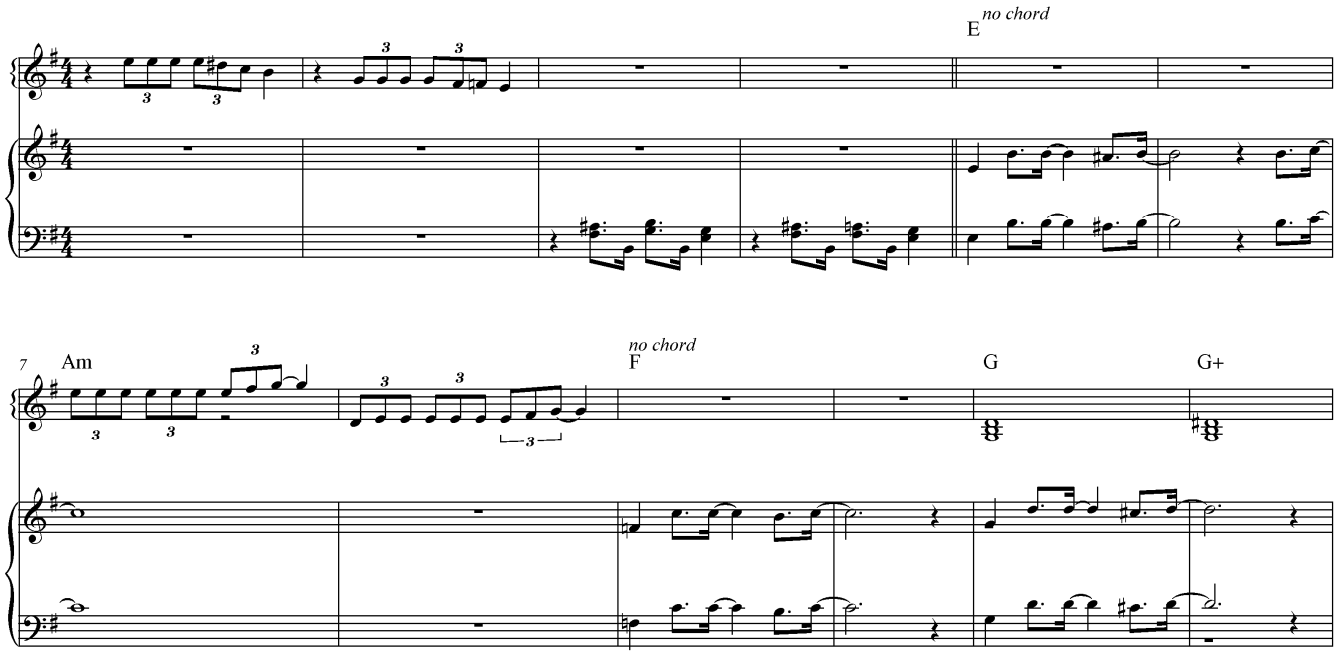


When the two notes (F# and E) appear again in bar seven they exist as different intervals of a different chord. It is this harmonic shift which creates the defining moment in the melody. But the 'melody' is only half the story of why this sequence works so well. We respond to the melody notes but what we also respond to is the contextual shift of the G# and B notes underneath and what they constitute in both chords. These are the finer subtleties which engage us, perhaps on a deeper level.

Rolfe Kent's main theme to *Dexter* is an incredibly engaging piece of writing which conveys a colourful and international mixture of styles. There are elements of reggae, swing and Latin. The reggae beat is created by Brazilian and Latin percussion, a guitar, and an Irish bouzouki. The distinctive and instantly memorable melody is played by a combination of ukulele, piano and bouzouki, lending the theme an international feel. If we look at the harmonies for a moment and disregard the individual instrumental textures its interesting how the piece manages to convey a specific sense of harmony without actually stating it.

Harmony by implication or conjecture is something we've looked at before in a few other notable themes. The initial unaccompanied motif is heavily suggestive of Em even though no accompanying chords are present in the first two bars. The scalic line (E, D#, C, B) conveys Em without the need for a chord. Conveying harmony without the need for an actual chord can be an extremely effective way of writing. The information is minimal but what it implies is greater. It is literally more than the sum of its parts because listeners fill in the missing bits.

Fig.68 *Audio – Dexter Opening Theme – 00.00*



The other two interesting aspects of this piece which help to create a distinctive and memorable theme are firstly that we don't necessarily expect the chord of F in bar nine. This chord lies outside the key centre of Em; the appearance of the F chord and supportive melody succeeds in engaging us because it does something, however subtle, which we *weren't* expecting, which adds an exciting sense of deviation and colour. Another tiny example of this piece's distinctive harmonic traits resides in bar twelve where the melody hits the D against a G+ chord which possesses the raised 5th (D#). This almost imperceptible harmonic event is one of the piece's many attractive subtleties.

Red Riding (1974) *Adrian Johnston*

Red Riding is a contemporary, dark and original television drama series of three films, based on books which deal with police corruption and feature several recurring characters across the four books. The books and the films feature fictionalised and dramatised versions of real events intertwined with purely fictional stories. The first film of the trilogy focuses on a series of the unsolved murders of young girls and follows Eddie Dunford, a young reporter from the *Yorkshire Post* as he tries to find information on the missing girls.

The following excerpt is taken from a scene which occurs toward the end of the first film of the series, set in 1974. In the scene Dunford arrives at the home of a violent gangster to seek revenge. The music starts as the man enters the house, gun in hand, set for confrontation and retribution. The music for this scene works extremely well in underpinning the seriousness, drama and gravity of the narrative not by providing the usual cacophony of rhythmic thumping 'crime' music, but by way of harmonies which penetrate the listening experience, 'stick out', demand our attention and offer us something different.

Fig.69 *Audio – 'Redmoor' (01.58) Film - 01.31.55*

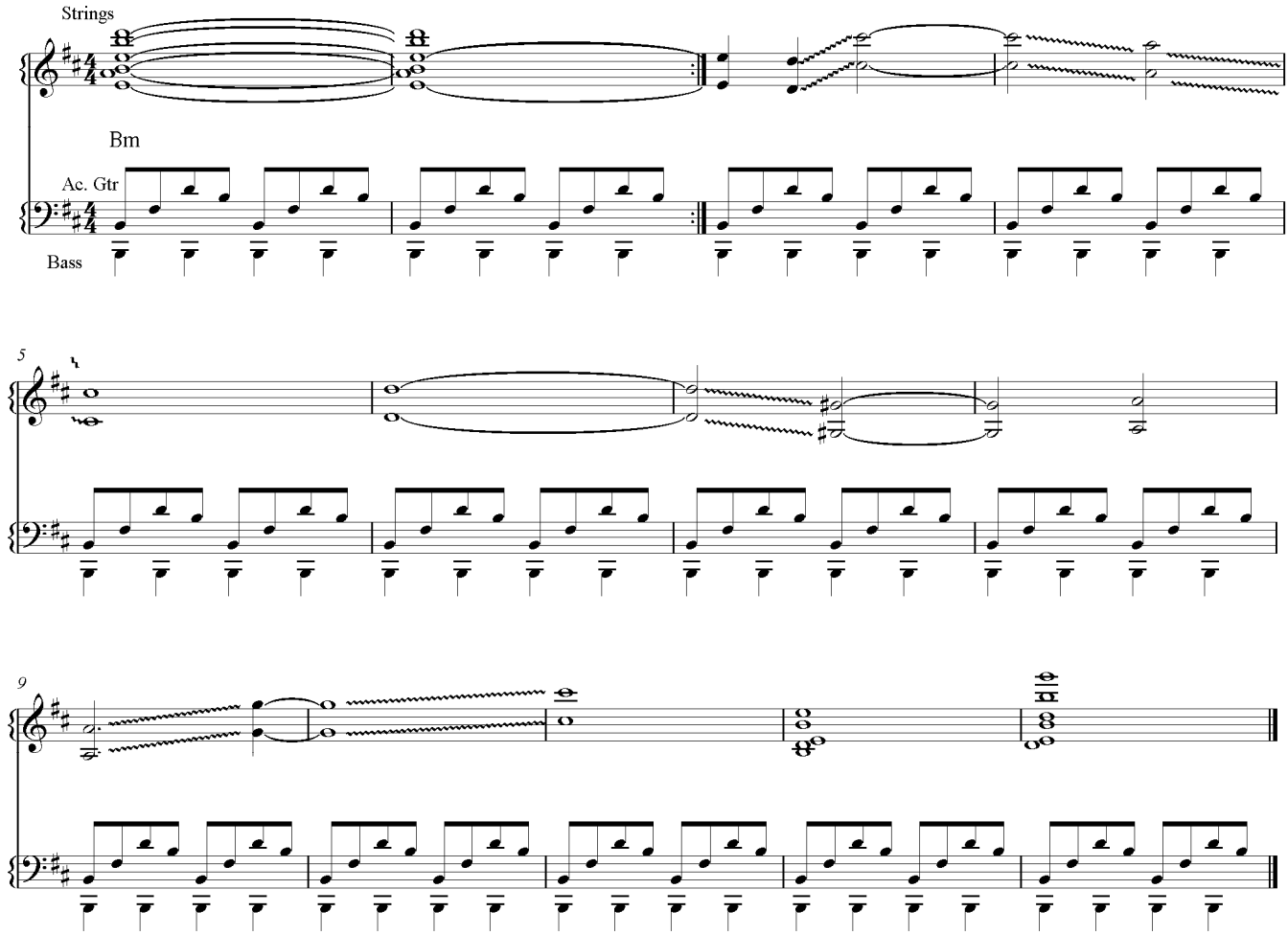
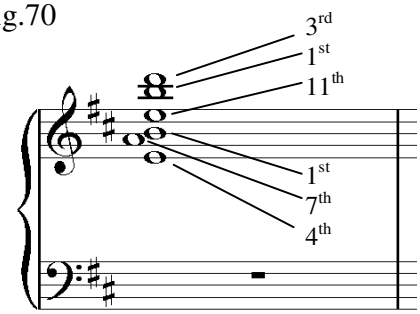


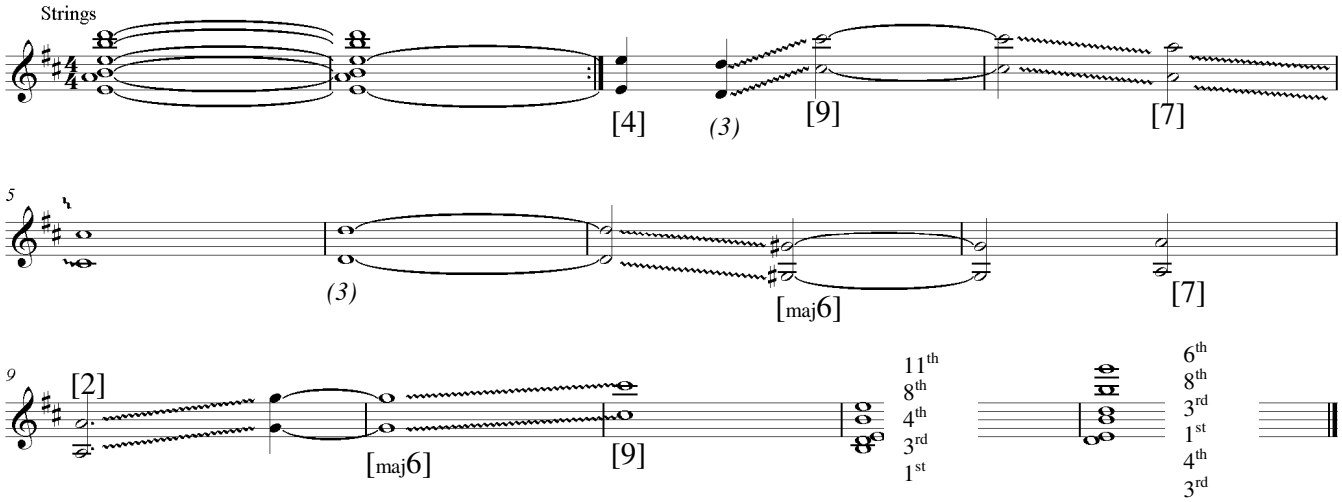
Fig.70



The initial chord (left, fig.70) which begins the sequence is awash with colour in the form of extensions (4th, 7th, 11th); the extensions are at the bottom and middle with primary intervals (1st and 3rd) mainly at the top. Normally primary intervals would be at the bottom or middle and extension would be in the middle to top; therefore this redistribution of notes and intervals makes the chord partially lose its identity.

Scanning the accompanying guitar chords in fig.69 we can see they consist of a constant Bm, articulated largely in arpegiated fashion. Given that this is the bed of sound on which the strings exist, the colour in this piece lies in the initial string chord and subsequently the string line itself, which uses an interesting array of extension intervals; also there are often big intervallic leaps *between* the different octave melody notes. Not only that, but the strings accentuate and italicise the maneuvers by virtue of glissandi. In fact there is only one 'normal' primary interval in the whole of this piece; the min3rd (used twice).

Fig.71



Intervals possess both individual character (when performed melodically against chords) and collective character, when used together in chords. Whilst different intervals have the potential for communicating specific tensions, characteristics and qualities, the emotion and character of intervals are not literally ingrained or inbuilt within; the communicative factor lies in our *reaction and response to* those intervals (how we 'feel' when we hear them). Perception is everything. Our responses and reactions are governed by a collection of past experiences, memories, expectations, emotional state and intellect. If we are responsive, prone to being affected by things we see and hear, we will be more open to music's communicative capabilities.

I remind readers of all this because elements of the piece from *Red Riding* communicate singularly but also cumulatively. When we first hear the 9th, (C#, bar three, fig.71) it creates tension in the listening experience because it is a little different from what we perceive 'the norm' to be. As I said earlier the tension is also helped by the interval which leads from the min3rd to the 9th (which is itself a maj7th). The G# note (maj6th interval over the Bm chord, bars seven-eight and nine-ten) plays a pivotal role; the maj6th (or the 'James Bond' interval) functions in a minor chord similar to how the #4 functions in a major chord in that they both create instant colour.

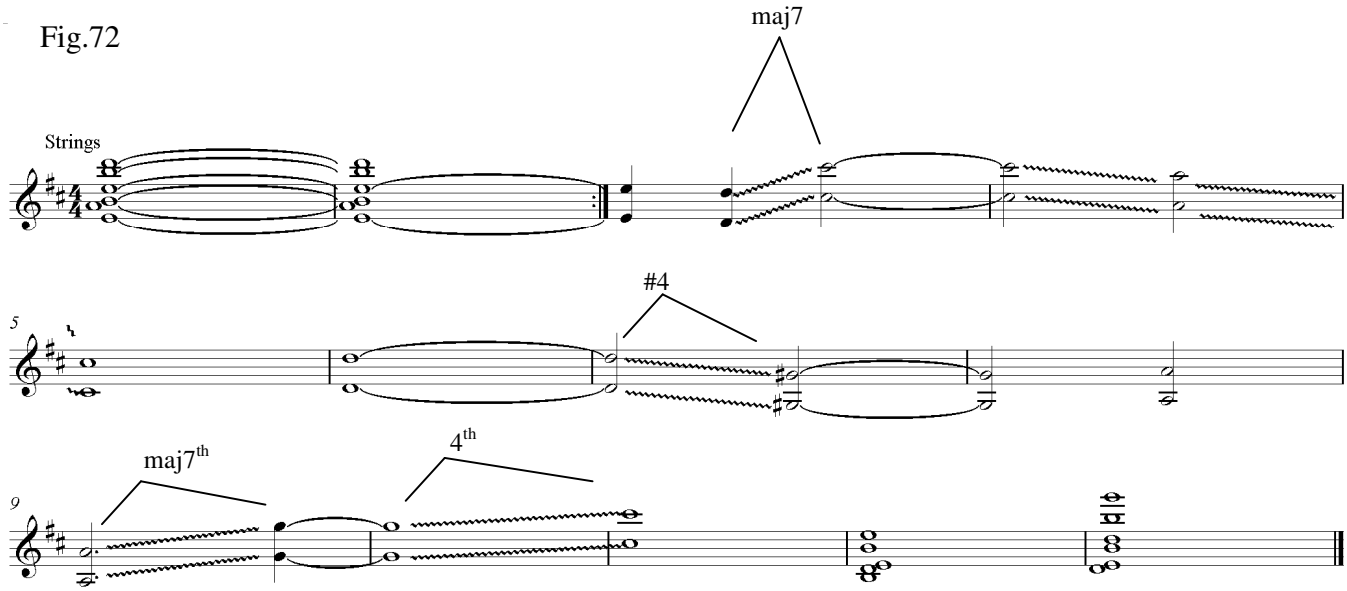
There is no mistaking them; the interval of root to #4 creates a distinctive sound, one we have discussed numerous times in different contexts, but the maj6th and the min3rd of a *minor* chord are also a #4 away from each other, which is why there is such a potent similarity between the two types of chords.

The piece also makes good use of the min6 (the G note in bar nine). The m6 is less colourful than the maj6th (G#); it is more subdued, dark and 'difficult' as it clashes with the 5th (F#) of the Bm chord.

Intervals to intervals

As I briefly alluded to earlier although this piece displays quite vividly what colour can be obtained by using specific intervals in the melody, it also shows the effect of the intervals that exist between the melody notes – the horizontal intervals. The leaps, detailed below (fig.72) are made more obvious by the glissandos but the intervallic leaps themselves create drama.

Fig.72



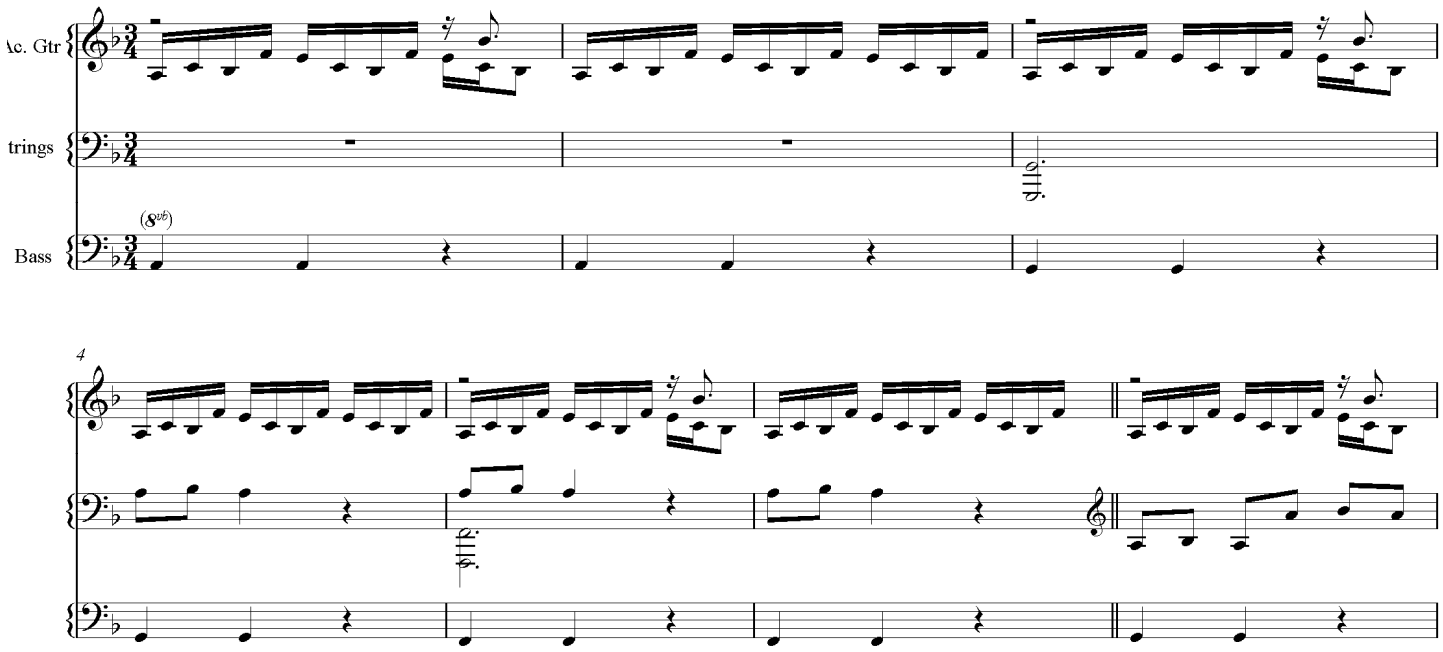
You might ask why I highlighted such a basic interval as the 4th (bars ten-eleven) but the reason is that although the interval itself is a square and bare 4th, it exists between the maj6 and 9th of the Bm chord, two colourful intervals. Normally if there is a 4th interval that separates notes in a chord it would be between the root and the 4th or the 5th and the octave. We are used to the 4th interval being one of stability and strength, but separating as it does the maj6th and 9th of a minor chord, the interval produces a weird parallel squareness, not strength. One more interesting aspect of this film is that the simplistic acoustic guitar accompaniment used in fig.69 ('Redmoor') features at the outset of the film (minus the strange string melody). A purer, more innocent version of the piece therefore begins the main character's journey through the film, ending dramatically with the same accompaniment but supplemented with the odd strings.

The following excerpt is from a piece entitled 'Microfiche' and in the film it occurs when journalist Eddie Dunford (played by Andrew Garfield) is researching his story and is examining newspaper stories contained on microfiche. There is no dialogue as Eddie examines old newspaper stories; the music works well in articulating the significance of the articles and the drama of the scene generally. The piece conveys a real sense of intrigue, suspense, conspiracy, plot and menace. But, again, the composer delivers this emotion in a subtle way. There are no harsh textures or dynamic changes which are so typical of music aiming to create suspense. Although the initial two bars convey an Am feel, the guitar / harp arpegiated section contains Bbs, which creates a Phrygian feel and disturbs the sense of harmonic placement. This is unsettling and together with the specific texture and articulation of the acoustic guitar, gives the piece a sense of 'strangeness'. This is *subtle* suspense.

The initial arpegiated acoustic guitar / harp line remains the same for the duration, lending the piece a slightly mesmerising sense. By bar three the piece loses its sense of harmony when the bass drops from A to G. Bar five sees the return of sense of a harmonic centre by virtue of the F bass note, the A/Bb/A string melody and the omnipresent arpegiated acoustic guitar / harp, which create a feeling of Fmaj. Bar seven again sees the sense of harmony disappear; the A melody note on strings seems to feel like a 9th over the G bass. The constant focussing in and out harmonic coherence creates an uneasy emotional state in the listener, but does so in an almost imperceptible way.

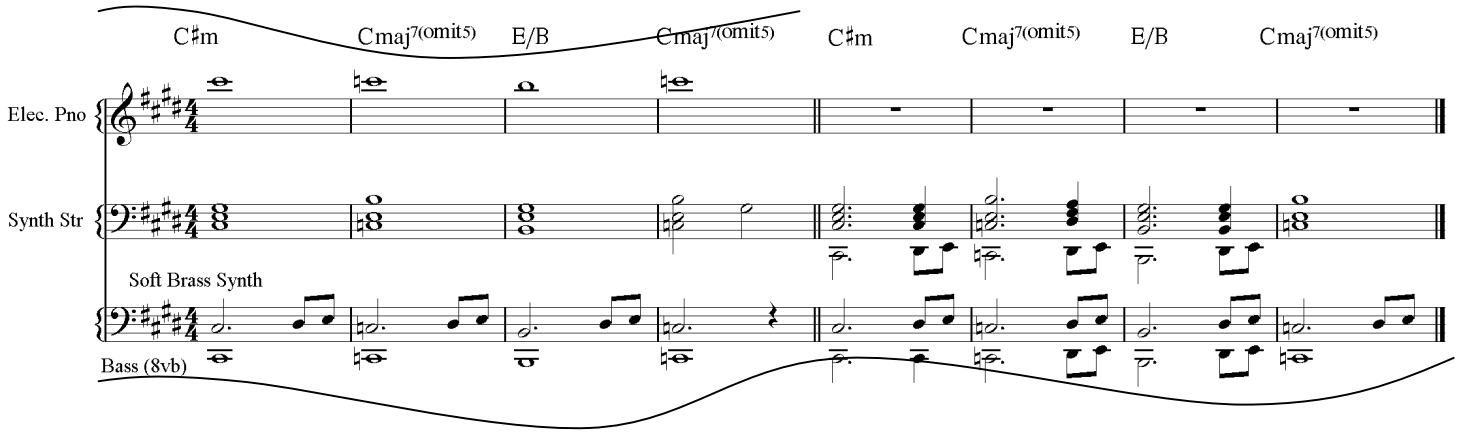
Audio - 'Microfiche' Film – 00.30.31

Fig.71



The following short excerpt is from a piece entitled 'Panagyric' The piece has some evocative instrumental textures; the soft brass-like sample sounds almost like a Euphonium. The string sound has quite an analogue 'synthy' texture and both these two sounds are complimented brilliantly by the electric piano / synth top line.

Audio – 'Panagyric' Film – 01.01.30



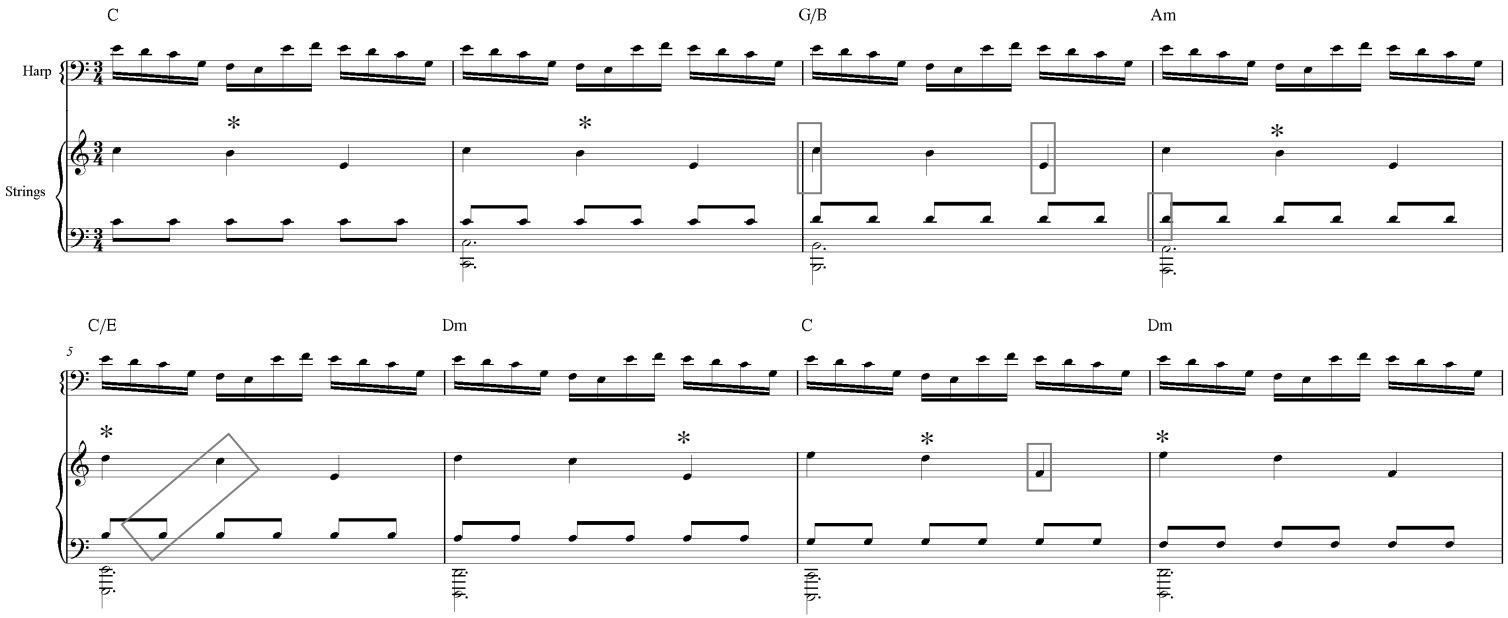
Harmonically this piece is alive with subtle tensions which lend it a sense of colour, drama and nervousness. The chord maneuver between C#m and Cmaj7 (middle stave) looks simple but this is deceptive; in fact the move from C#m to Cmaj7 is more pronounced because of Cmaj7's omitted 5th (bar two and six). By adding the major 7th but omitting the 5th the harmonic integrity and dynamic of the chord is subtly altered. By omitting the 5th the chord also italicizes the slight tension between the C and B note (maj7th); the gap between the E note and the B note is a perfect 5th, which shines a light on the B much more than would have been the case had the G (5th) been present. Then we have the slight tension between the top string note of B (again, bars two and six) and the top electric piano note of C. Normally on a maj7th either the maj7th or the 5th or 3rd would be at the top; to place a root on top invites tension.

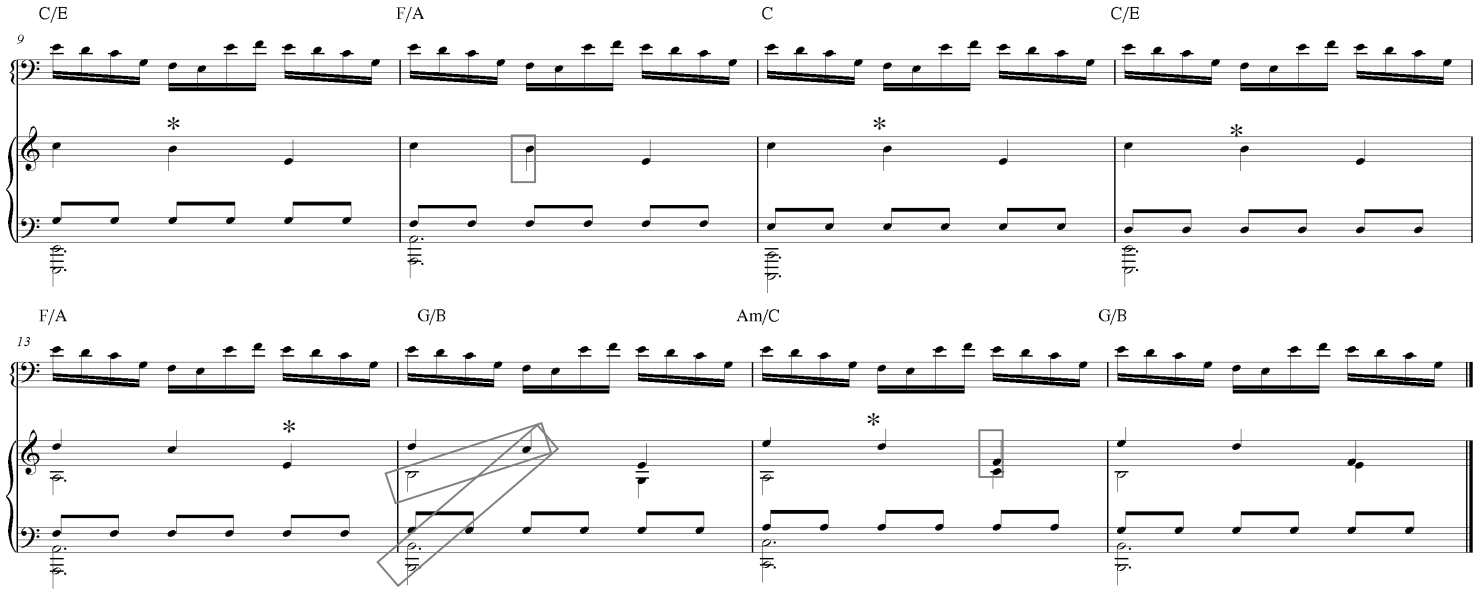
On top of all this there is an almost 'lilting' sense of movement, momentum and inevitability which work in contrast to some of the harmonic tensions. I have added contours to the transcription to show the outer movement of the piece. This sense of movement and inevitability is also created by the soft brass sound which has the same melodic rhythm throughout (dotted minim followed by two quavers).

Red Riding (1983) *Barrington Pheloung*

The following excerpt is from a piece entitled 'Finding Hazel' and is taken from the audio soundtrack of 1983 *Red Riding* (the third and final in the series). This piece generates colour and emotion through a careful selection of harmonic events which create different levels of tension. Intervals marked with an asterisk (*) create soft, mild and in some cases virtually imperceptible tensions: bar one (beat 2, maj7th); bar four (beat 2, 9th); bar five (beat 1, 9th); bar six (beat 3, 9th); bar seven (beat 2, 9th); bar eight (beat 1, 9th); bar nine (beat 2, maj7th); bar eleven (beat 2, maj7th); bar twelve (beat 2, maj7th); bar thirteen (beat 3, maj7th); bar fifteen (beat 2, 11th).

Audio track – 'Finding Hazel' - Red Riding 1983 - 01.33.20





All these extensions create twinges of colour but do not intrude on the harmonic flow or 'distract' in the same way the following intervals do: by contrast Intervals marked ☐ denote those which create real tangible tension and therefore require more analysis; in bar three (beat 1) the C note functions as the 4th which clashes with the lower B note (3rd of the G chord). The clash is more profound because the B note is inverted, functioning as the bass of the chord and therefore more exposed. The E note in the same bar functions as the 6th of the G/B chord. The reason it creates tension is because it clashes subtly with the D note and therefore blurs the distinction between chord perceptions of G/B and Em/B. Bar five contains, once again, the clash between the C note (4th) and the B (3rd); the same thing happens in bar fourteen. Bar eight contains the F note (4th) against the chord of C – an identical clash of 4th against 3rd. Bar fifteen contains an F note which is the min6th against the 5th (E) of the Am chord.

The combined effect of the mild and the more distractive intervals succeeds in making some chords subtly indistinct. This would be more obvious but for the distraction of the flowing contours of the melodic line to which those intervals are attached. The 3/4 pulse and crotchet pace delivers often quite difficult intervals effortlessly.

Chapter 3

THE COMPLEXITY OF HARMONY

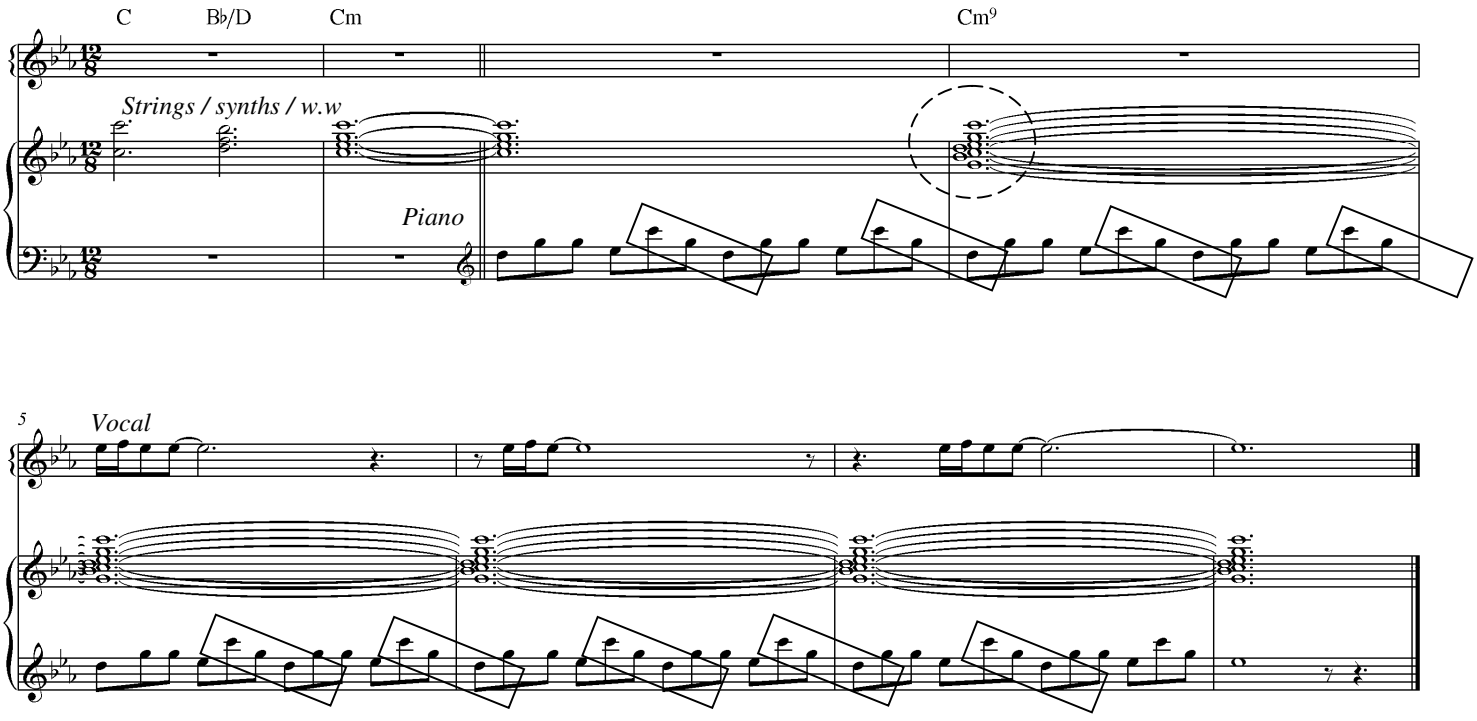
In this chapter we will examine how harmony communicates in a film music environment, using specific voicings, counterpoint, inversions, extensions and other harmonic devices. We will look at how harmonic conventions, coupled with specific instrumentation and orchestration techniques, combine to create some memorable musical moments in film. Music analysed includes: *The Pelican Brief* (James Horner) *Halloween* (John Carpenter) *Back to the Future* (Alan Silvestri) *The Twilight Zone* (Marius Constant) *Batman Returns* (Danny Elfman) *Close Encounters of the Third Kind* (John Williams) *District 9* (Clinton Shorter)

THE PELICAN BRIEF *James Horner*

James Horner is a multi-faceted composer whose eclectic style spans thirty years and numerous musically diverse blockbuster films. He is seemingly comfortable in any genre and writes vibrant, emotion-filled music which communicates vividly to the audience. *The Pelican Brief* is a thriller featuring a mixture of legal issues, animal rights concerns and political corruption. The excerpt in fig.1 is a transcription of the opening title music.

Audio, 00.17, Main Title – Movie 00.30.00

Fig.1



The points worthy of discussion from this score are far too plentiful to cover in one chapter alone. For example, Horner's rich mixture of textures, the way his composing matches perfectly the arrangements which deliver the music, the way he uses solo vocal not as a 'special case' or in a vocal style but as part of the orchestra; all these factors could fill a chapter alone.

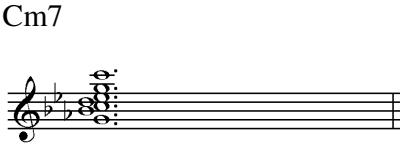
For the purposes of this chapter I would like to address purely his use of harmony and instrumentation; specifically in fig.1 his use of dense scoring and cluster harmony to add a delicate, ghostly, ethereal otherworldly quality to the music.

The pictures in the opening section of this film, beautifully shot and brilliantly envisioned by director Alan Pakula, both stunning and foreboding, nevertheless give little away about the film's narrative. The delicate and evocative music partly fulfils this function by placing a melancholic lamenting score against the opening images. How exactly does James Horner's opening credits music suggest the emotion? How does it communicate with its audience?

Before we look at the harmony in detail let's look at the piano line and the way it dances over the Cm chord and touches on the add2 (the D). The highlighted movement between top C, G and D is pivotal here because it offers two successive 4th intervals which give the line a kind of 'squareness', accentuating and italicising the add2; the bare harmonies work well in penetrating the colours created by the accompanying 'dreamy' chord (circled).

The chord highlighted by the perforated circle and below (fig.2) sits in the background of the mix behind the piano line and vocal motif. It is worth taking a much closer look at this style of harmonic grouping. Doing so will open up important areas of study relating to harmony and how it functions. Essentially the chord is a Cm9 but voiced as a cluster. This chord works well in context of the textures and instruments used, but looking beyond the instrumentation and into the chord I want to explore why chords such as this work so well. Knowing *that* they work is one thing, but knowing *why* is important.

Fig.2



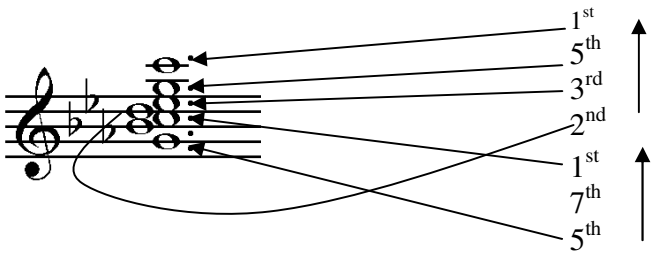
The sound of silence: The gap that separates two notes does not make a sound, but it is the loudest, most profound silence you'll ever hear because it dictates the context of what music *is* and it defines *how* we listen.

The context of harmony *is* the gaps; the silence between the notes. It's all about the gaps; without the context of intervals, music is nothing more than random harmonic energy with no overall context.

There are different ways of interpreting harmony. Most analysis concerns itself with surface level basic analysis of how harmony functions in an immediate, literal sense; which notes go where to create a certain chord. Most analysis of harmony uses as its starting point the root note of the chord; in identifying the chord everything is seen and heard in context of the root note. This is the basis of harmonic theory and is also the reason intervals have the names they do. But if we stop for a moment to consider what subtle dynamics are at work when we play any chord, especially one lathered with extensions, we can begin to understand the almost limitless possibilities harmony offers us, the colour it possesses and the almost equally limitless ways in which it manages to communicate emotionally.

Let's look firstly at a basic analysis of the chord in question

Fig.3

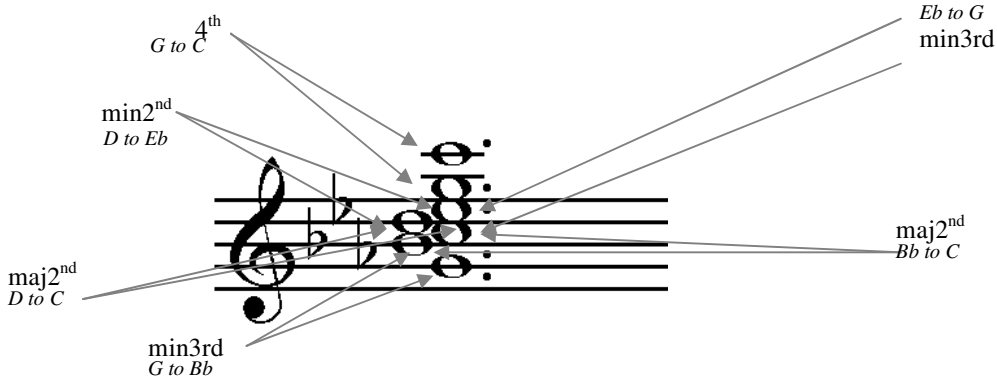


This traditional analysis displays intervals as seen in context of their root.

Everything is rationalised from the ground up.

This is how we normally rationalise harmony. Everything is seen from the dominating perspective of the root. Because this is how we learn music theory and learn how to build chords, this is how we tend to analyse them too. If we widen the context of our analysis and look at notes and intervals in context of their neighbours (below) not in context of the root - a more localised relationship – it offers a slightly different perspective.

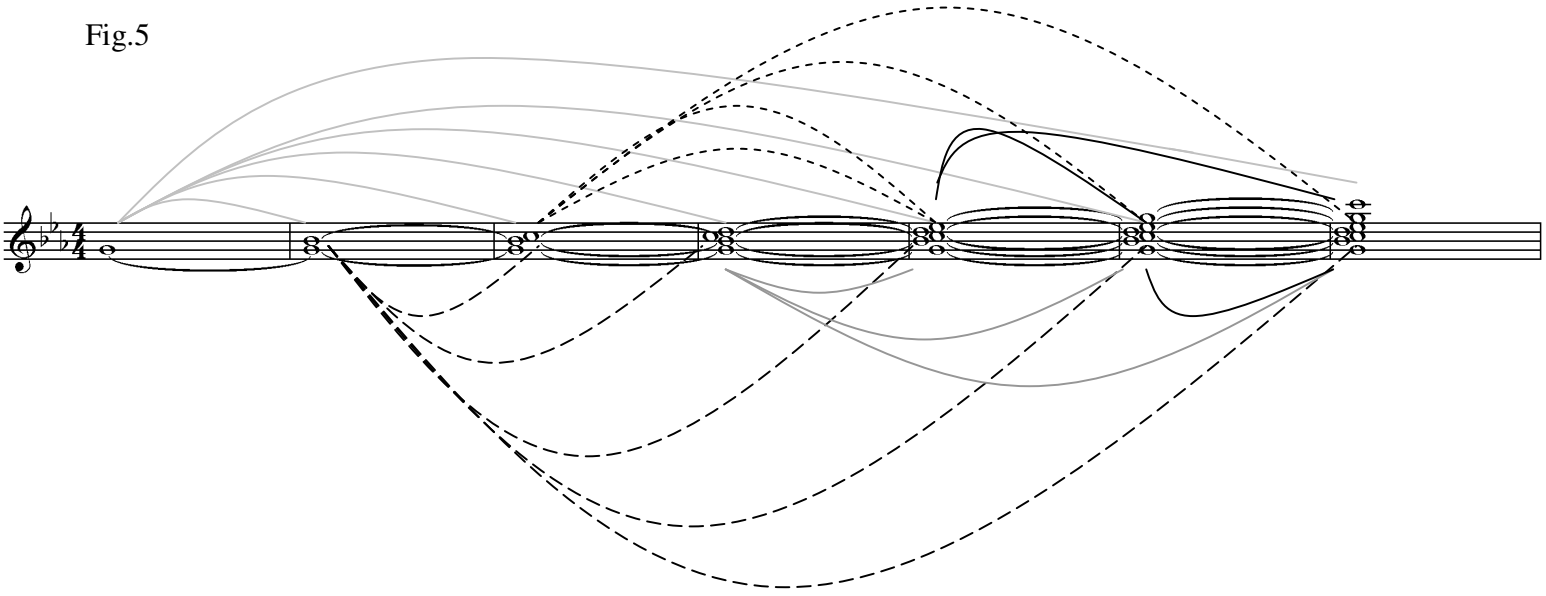
Fig.4



Understanding and appreciating the myriad of different harmonic dynamics floating around inside this chord goes some way to explaining how and why it communicates such vastness of colour and so vividly. The breadth and complexity of harmonic dynamics within this chord is what listeners hear; the intervals and relationships are varied and complex and this alters our perceptions, cofounds our expectations and offers a different listening experience. This type of chord and the way Horner delivers it to us places us in exactly the right emotional state to enjoy the story and watch the film.

To seemingly go completely off the deep end; the chart below displays all the intervals at work in the Cm7 (add2) displayed sequentially in row rather vertically than on top of each other, to allow for a better visual interpretation. The bottom G note (5^{th}) relates to **six** other notes above it in the chord. The Bb in bar two (7^{th} of the Cm chord) relates to **five** other notes above it in the chord. The C (root) relates to **four** other notes above it in the chord. The D (2^{nd}) relates to **three** other notes above it in the chord. The Eb (min3) relates to **two** other notes above it in the chord. The G (comp. 5^{th}) relates to the **note above it**, the compound octave

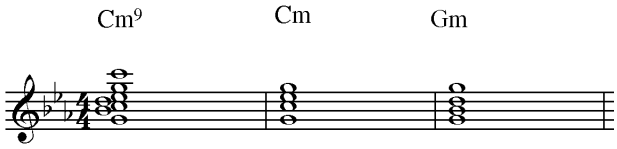
Fig.5



This vast array of harmonic 'events' is at work whenever this chord is played in a way which enables it to be heard; this is what we hear. We cannot hope to be able to hear every interval; we will detect a few at best, or perhaps the primary intervals that communicate the most clearly. But if just one interval was missing or was changed, the affect would touch everything. Everything would change. I say this to relay the simple but awesome power harmony wields. It helps to understand the immediate and cumulative effects of harmony in order to understand how and why music sounds the way it does.

Looking one last time at the chord we can also see it has more than a whiff of polytonality about it. One of the things which give it its vague, nebulous, almost dream-like indefinite personality is that whilst it appears to state one chord it hints at two.

Fig.6



The first chord in fig.6 is the actual chord; the second chord is the basic inverted Cm prior to the 7th and 9th extensions. But the third chord is a fully formed root-positioned Gm chord made up of notes extracted from the first chord.

Put simply, the main reason this chord possesses a tinge of dreamy ambiguity is because it speaks with two voices at one. Our inability to 'hear' this for what it is, our inability to process and decode the information causes the ambiguity.

This brief transcription below (fig.7) is taken from a later point in the same cue.

Fig.7

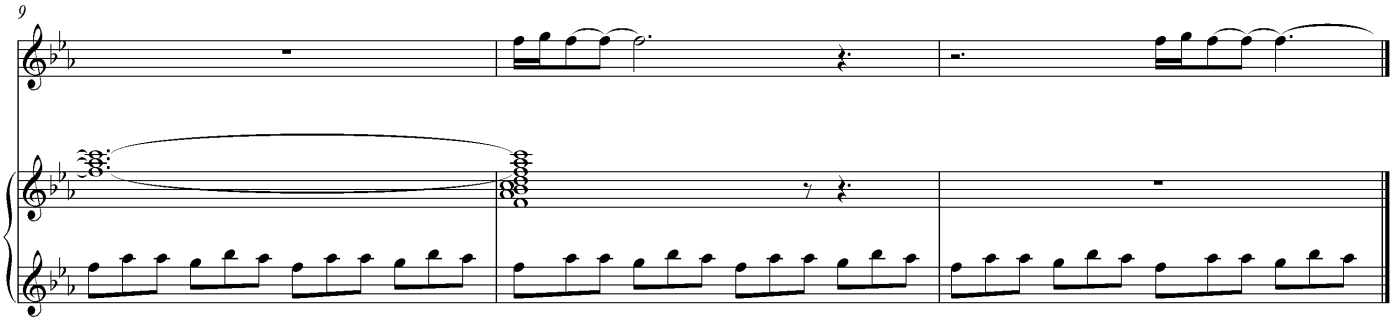
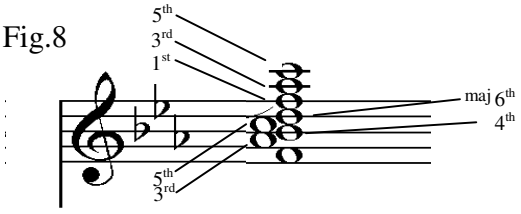
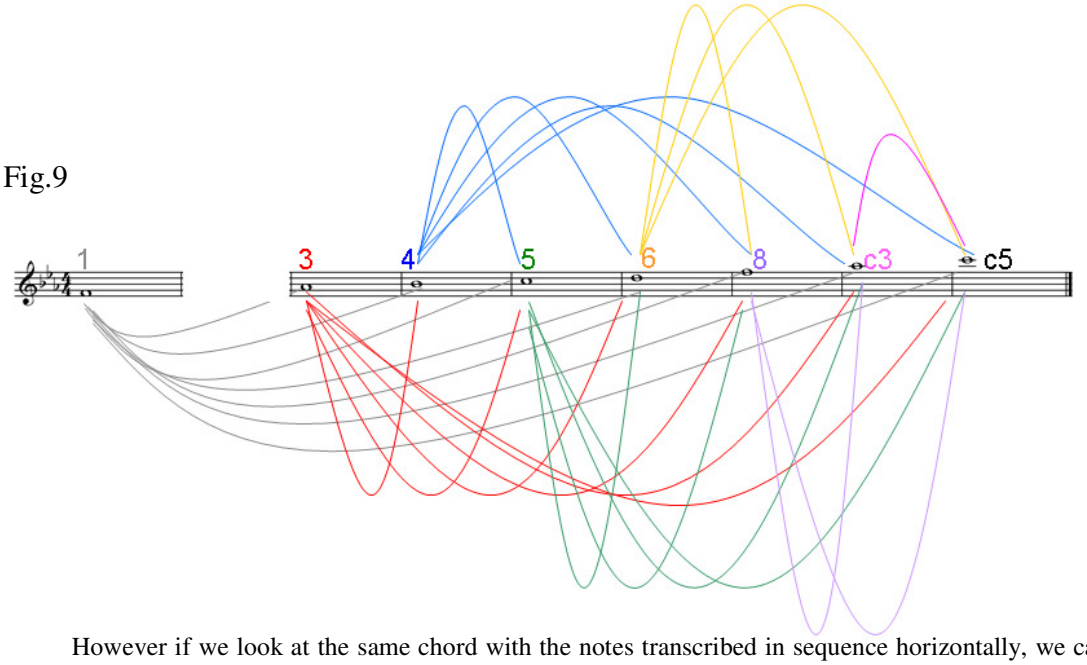


Fig.8



As with the first chord we looked at, if we analyse the chord in bar two of fig.7 the normal way we simply see a stack of intervals and extensions (transcribed separately, fig.8).

Fig.9



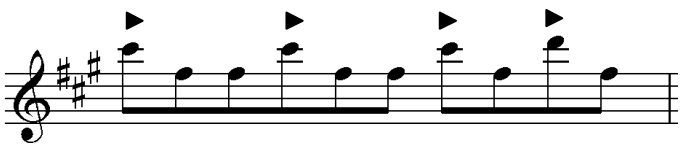
However if we look at the same chord with the notes transcribed in sequence horizontally, we can see how many separate harmonic events take place as all the notes in the chord relate not just to the root note but to each other

HALLOWEEN *John Carpenter*

Harmony by conjecture and probability; intervals by association

To move onto a slightly different part of the same issue, we need to analyse the famous, iconic piano line from *Halloween*, composed by the director himself, John Carpenter. The *Halloween* films have become ingrained into 20th Century pop culture and film history. Equally iconic is the music. Play the distinctive piano line to anybody who hasn't lived on Mars for the past thirty years and they will recognise it as the *Halloween* theme, either because they saw the film or have heard the music separately. But how and why does the piano line work so well? The issue we will analyse is how certain intervals are heard even when *not stated*. I'm not talking here about harmonics or anything else which provides a faint, albeit real, virtually inaudible interval; I'm talking about how the power of association affects how we listen. John Carpenter's music for *Halloween* was a synthesizer-driven score. His minimalist electronics continue to stand in contrast to the traditional horror soundtracks we've become accustomed to.

Fig.10



Before we come to the harmony, let's deal with the rhythmic elements: 5/4 normally feels disjointed and rhythmically unsure.

Hundreds of years of exposure to tradition and intolerance to musical 'abnormalities' deliver this presumption, and yet this piece feels suspiciously like 4/4. The placement of the three successive C# notes, particularly the anticipated second one, manages to make 5/4 appear completely natural. The addition of the percussion, which states the 'five-to-the-floor' beat helps.

Regarding the harmony; the overarching harmony is suggestive of F#m, despite no minor 3rd anywhere in the line. Play this line and you will 'feel' an accompanying F#m minor chord. There is truthfully no such thing as an unaccompanied melody: if we hear a line by itself what our brains do is seek to find order by classifying and categorising. We will 'hear' the single line in context of the harmony *it* suggests.

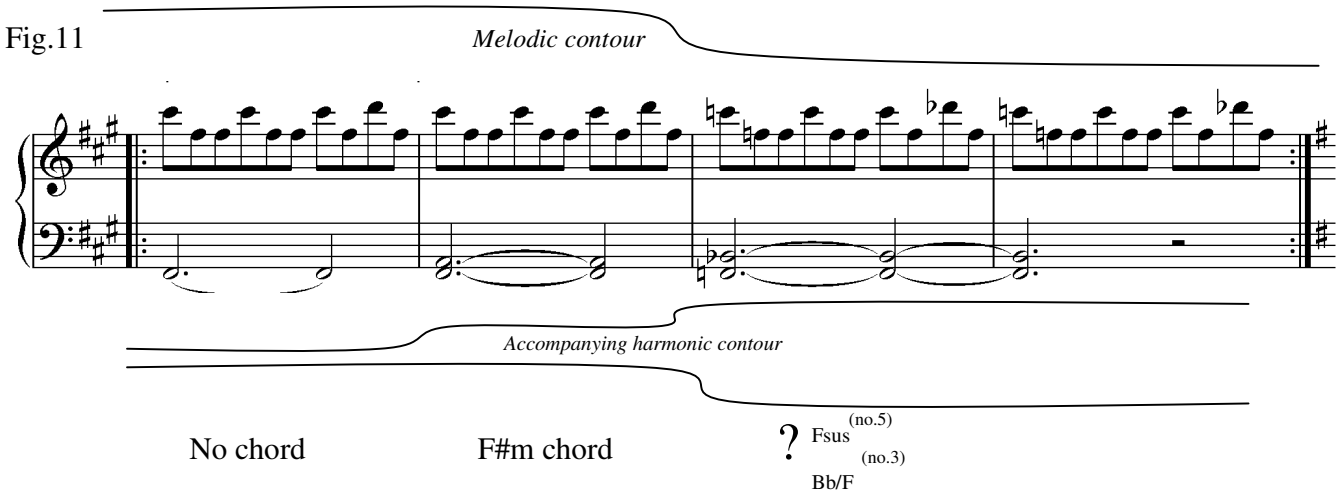
The composite suggestion is F#m. Why, when there is no minor 3rd, do we 'hear' this line in a dark, minor context? Play the line over an F# maj chord and it will sound wrong. Play it over an F#m and it will sit better. Play it on its own and it will sound better still because it conveys it insinuates its character without stating it. The D note is not found in the major scale of F# but it *is* found in the open and harmonic minor scale of F#. So despite implicitly avoiding the minor 3rd, it speaks via the power of conjecture, probability and association. Sometimes you don't need notes to actually *be* there. They just need to *seem* to be there. The overwhelming majority of listeners will be unaware of the history and heritage of harmonic presumption and how it directs them. They don't need to understand or read music to be beneficiaries of the power it exerts over them.

This is one of the reasons the theme from *Halloween* is so effective; because it arrives incomplete and needs our knowledge, intuition and interpretation to complete the picture.

As explained in more detail in earlier chapters, our expectations are governed by our assumptions and partly, our prejudices. Most of the time we listen to music we *expect* to listen to. We are rarely challenged. We even go out of our way not to be challenged. We develop taste, preference, partiality, inclination. We build up an impressive database in our mind of what's *probable* and what's *likely*. Effective music is music which challenges, tests, confronts and defies the simplicity of our expectations, but does so in a way which makes it accessible and acceptable. Film music provides this opportunity perhaps better than most music because it is not listened to as *real music* during the film, but as music which is *part of something else.* Composers can take more risks and listeners listen with less prejudice and specific expectation than they would if they were listening to music for pleasure; after all, when they sit in a darkened film theatre they expect to be distracted, entertained and even challenged. They don't go for normality. They go for an experience.

Composition has always been about choice; the issue therefore, when concerning oneself with concepts of originality and authenticity, is really, to what degree we choose and to what degree, if any, we bring something genuinely new to the table. Re-arranging things in a different order may well qualify for ownership of copyright but some might say it doesn't in any meaningful way qualify as moral ownership or creative ownership. What we own is the *order the notes fall in*, not their existence. We own the context not the reality. We don't invent music, we rearrange it. To return to the analysis of *Halloween*, if we look to when the lower synth line accompaniment enters we can perhaps understand other reasons why the piece was so effective.

Fig.11



An abrupt chromatic key shift from F#m on bar 3 is tempered by the contrary motion of the accompaniment and the ambiguous undefined accompanying chord in bar four. Is it an Fsus with no 5th or an inverted Bb no 3rd? The fact that there are different ways of rationalising this theoretically means there are different ways of interpreting it aurally, e.g. hearing it. Another aspect of the success of this piece is the uncomfortable 'sonic interference' and dissonance created by the low voicing of the min 3rd interval in the second bar of figure 10. Normally it would never be good to write such close harmonies at this low level, such is the effect of the dissonance. But in the case of a horror movie, it works well precisely *because* it is uncomfortable.

Fig.12 As an example of the power of harmony, play the sequence below….

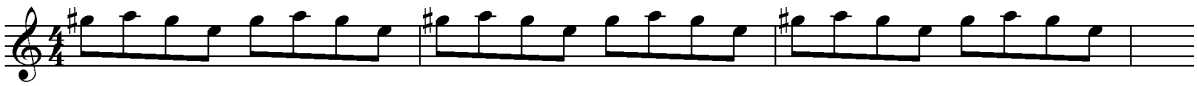
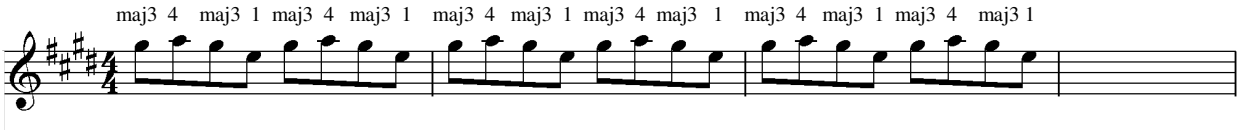


Fig.13 The following intervallic context will appear in your head without provocatio

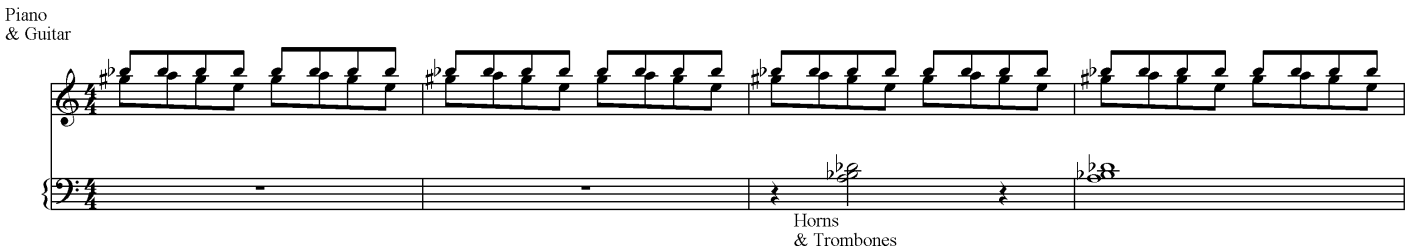


Based on the notes played, your mind will happily fill in the missing context. It will provide a key signature, intervals and the presumption of a safe chord to accompany it (E). Hundreds of years of tradition deliver these assumptions.

THE TWILIGHT ZONE *Marius Constant*

Now try the line below. The melody from fig.12 is there but this time we've applied a flattened 5th interval on top of the existing notes. Now you hear *The Twilight Zone*. Nothing changes music like an interval. Nothing skews perspective like a flattened 5th. This famous theme by Marius Constant is probably one of the most instantly recognisable themes ever written. Like *Halloween* it conjures up the perfect emotional state to accompany the pictures and narratives. As soon as we hear the *Twilight Zone* theme being played we are transported to an emotional state which makes us susceptible to the bizarre narrative of the show.

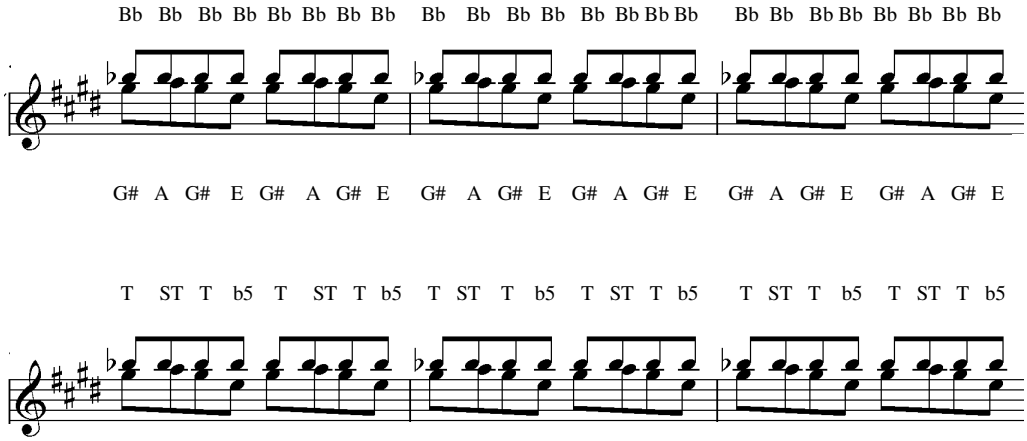
Fig.14 *The Twilight Zone* - Marius Constant



It communicates because it has two musical realities; it has the nice, jaunty little up-and-down theme, which we attempt to rationalise as maj 3rd 4th maj3rd and 1st, which is then bolted on to a constant note which creates varying levels of dissonance.

It communicates so well because the two realities compete simultaneously. The piece goes too quick to be rationalised or understood completely but this doesn't mean the reasons for its abstract qualities don't exist. It just means we don't understand them. Like a mobile phone roaming for a signal, the mind's ability to instantly pigeonhole, compartmentalise and classify, attempts to make sense of the information it receives.

Fig.15



It's difficult to determine exactly how we listen to this piece; whether as listeners we try to make sense of it from the 'top, down' in context of the constant Bb or from the bottom up, in context of the movement. One thing we can be sure of is that regardless of how we rationalise it, the intervals we're presented with never resolve and they are mainly dissonant. This is not light and shade or tension and release; this literally is *The Twilight Zone*. A constant level of anxiety is communicated. Music is usually a combination of components which to some degree satisfy the listener's prejudices, presumptions and expectations but to some degree make the listener think, or 'work'. This creates variation and determines to what degree 'we' are part of the process; how much of our own interpretive skills we require. If too much interpretative power is required it leaves listeners disorientated and baffled; too little might leave them feeling underwhelmed, bored and patronised, although they're probably unaware of these precise emotions.

TS Eliot once said 'true art communicates before it is understood'. Leaving aside the notion of what exactly constitutes 'true art', he nevertheless had a point; most successful film music shares one common denominator: it creates within us a sense, an emotion, before it is understood, if indeed it is ever understood. The problem is that the same statement may imply that, if something communicates without being understood, why bother understanding it in the first place? From an audience perspective this is a fair point. Ignorance may well be bliss. But artists and composers bother to find out why art communicates a sense of meaning because to 'know why' is to *understand*. To 'know why' is to be able to reproduce a new piece without the ridiculous burden of not really understanding how you produced the last one.

For a film composer, little is given to chance. Composing may be a deeply emotional and responsive experience but the ability to convert our emotions into commercial consumable units, quickly and efficiently, is about knowledge; lots and lots of it. Knowing you've created something that works isn't enough without understanding 'why'. Without understanding *why*, ignorance will never be bliss; it will only ever be ignorance.

Jolts

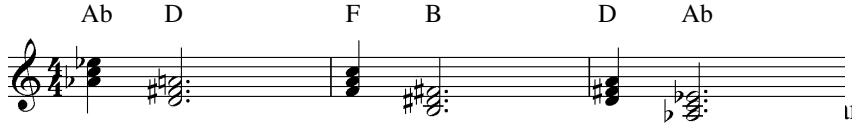
Within the world of television viewing the concept of 'jolts' exist; A 'jolt' is a term given to an event which takes the viewer's attention away from one source of visual stimulus to another; a quick scene change or different camera angle. Decades ago relatively few 'jolts' occurred. Flash forward to the 21st century and one of the hot topics of media discourse is the level and volume of jolts, which are relentless and on-going.

Cultural theorists believe this is too much; that it damages our awareness, prevents us from being aware of an image for long enough for us to understand it, turning us into superficial viewers. Ironically the concept of 'jolts' has a different meaning in music. Because as listeners we listen and don't look, we need jolts to actually sustain our interest and enjoyment; but not too many. If the iconic, addictive and instantly recognisable *Twilight Zone* melodic figure sequence had simply carried on without the abstract brass and woodwind accompaniment which eventually occurs, the history of this tune, or 'sonic logo' might have been very different. People have drawn similarities between *The Twilight Zone* and *Halloween* because they possess similar hypnotic effects. But they are different; *Halloween* needed the chords which eventually came to free us from the monotony and simplicity of the initial melodic line, whereas *The Twilight Zone* needs the eventual brass and woodwind burst of accompaniment to free us from the baffling tirade of dissonance. I suppose the point here is that rhythmic or harmonic dissonance, like any musical device, needs to be delivered at the right time and in the right way and for the right length of time. Cultural theorists say visual jolts will drive us mad and turn us into morons. But we need them in music to free us from tedium, uniformity and sameness. However, as we will find out in subsequent chapters, quite the opposite is true when crafting minimalism: it is the beautiful and hypnotic appropriation of tedium and monotony and the rejection of traditional context that delivers the mind-set to create minimalism. In most music what matters is what's there; what's heard. In minimalism what matters is what's *not* there.

BACK TO THE FUTURE *Alan Silvestri*

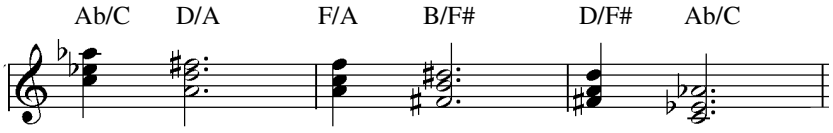
To show, again, the power of intervals and how they can be manipulated, look at the following transcription.

Fig.16



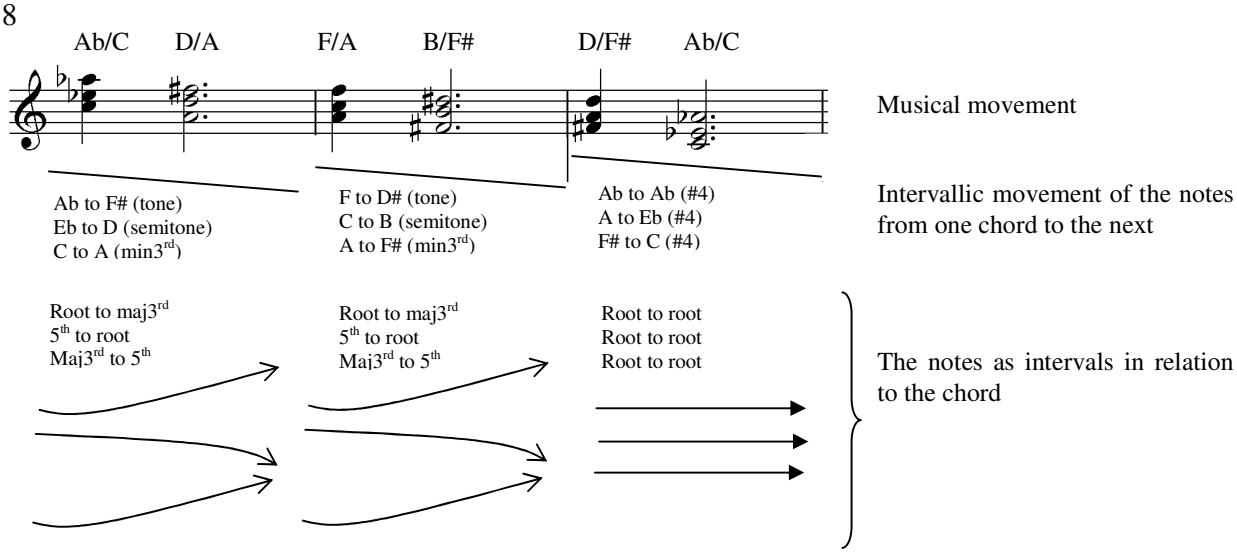
In augmented 4th from the previous chord. Now (fig.17) let's look at the same chords re-voiced.

Fig.17



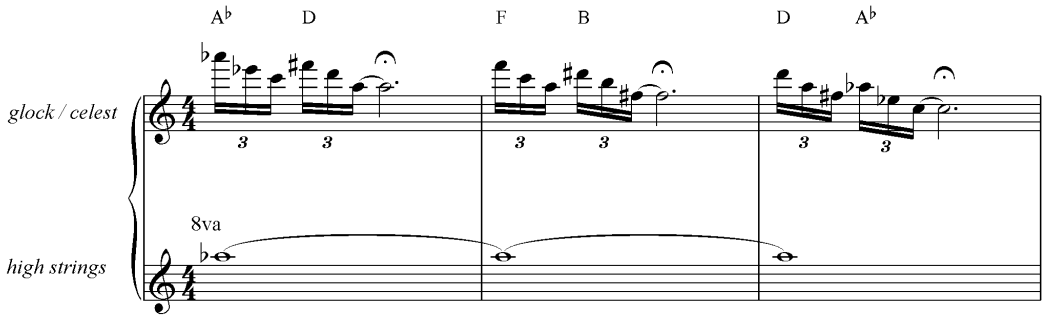
In this exchange although what the chord represents collectively still moves an augmented 4th down, this is smoothed-out and made less apparent by the different voicings and inversions in bars one and two. The chord exchanges in bars one and two are made more subtle and less obvious because of their inverted state but bar three remains root positioned. How can re-voicing a chord alter the perception of the degree to which it falls or raises? None of the individual note exchanges in bars one and two represents an augmented 4th drop; only the overall chord that the notes imply does. In fig.16 the overall chord movement and the notes within all state a drop of a sharpened 4th. But in bars one and two of fig.17 the overall chord movement of #4 is almost suggestive and notional. We're therefore in the land of a kind of musical 'optical illusion'. We're hearing three realities which contradict; the notes in the chords, the note intervals between one chord and the next, and the intervals the notes state in relation to the chord they create (see fig.16)

Fig.18



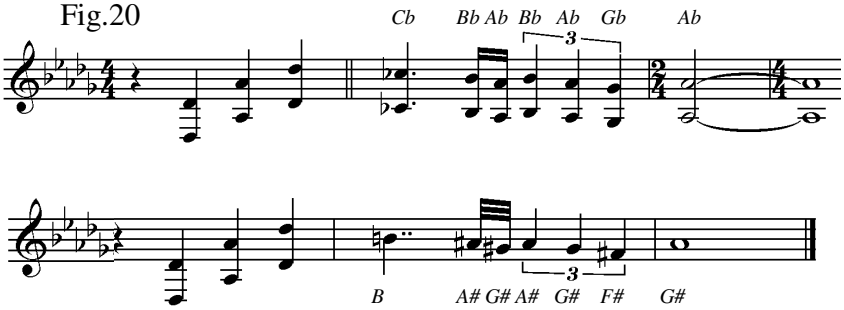
A combination of these realities causes the kind of distinctive harmonic colour which makes this music to effective. The music in its full glory, the iconic and instantly recognisable music for *Back to the Future,* is transcribed in fig.19. This sequence, probably more than most other musical pieces in the film, conjures up the playful tongue-in-cheek nature of the film. Yet again we not only have the musical brand of a film playing a pivotal role in the film's success, but the brand itself being built over a specific and precise harmonic sequence.

Fig.19 *Audio, 'Back to the Future II Main Titles - Movie – 00.00.16 Back to the Future II*



Staying with *Back to the Future*, and to once again show the considerable dexterity harmony offers, let's observe the other famous iconic motif from the film (the fanfare). If you look closely at bars five, six and seven (below, fig.20) you can see they speak the same sound but display different notes; different *spellings.* This is because the chords that accompany the second entry are different and so require an enharmonically different version of the melody. This once again shows the power of harmony and how we interpret intervals; harmony can say the same thing twice but mean different things

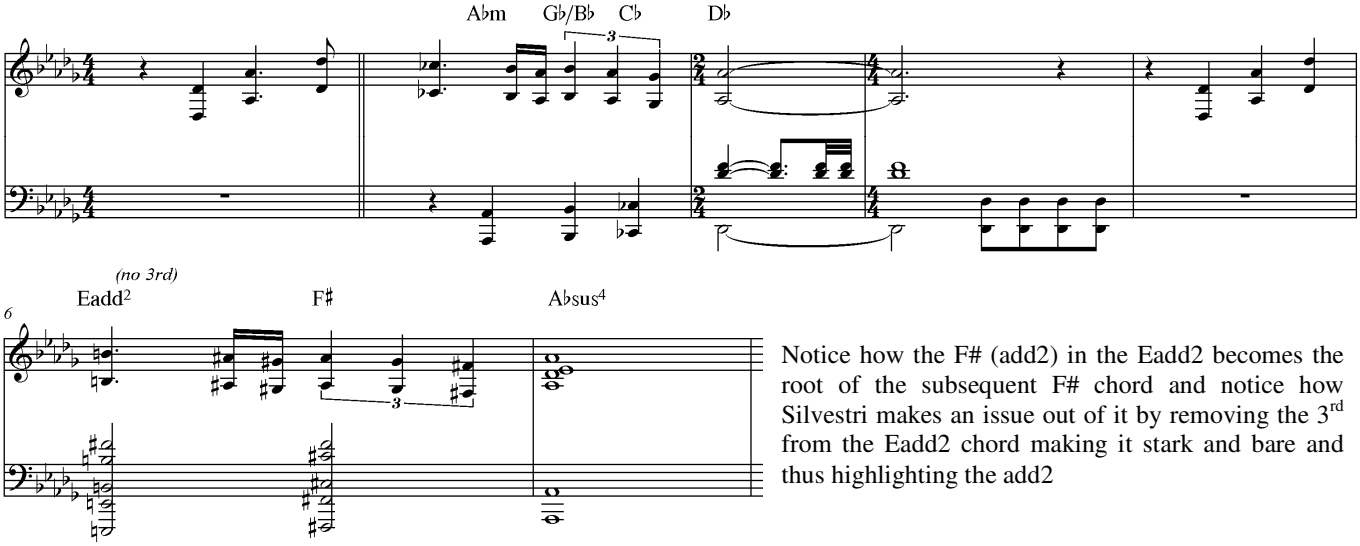
Fig.20



The great tool at the disposal of any film score writer is to restate a melodic figure but with different surroundings. You reinforce the theme but stop it becoming predictable by varying its context.

One of the strengths of this fanfare (below, fig.21) is that the same melody appears twice, but the second time it *means* something different.

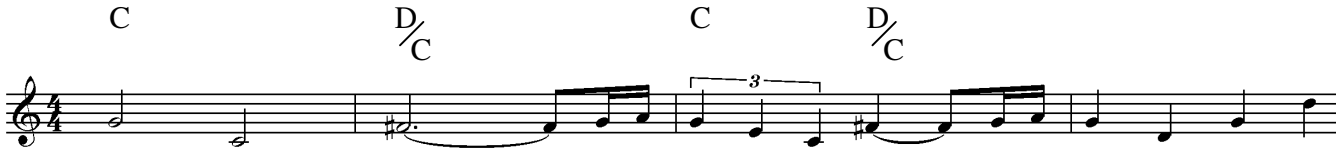
Fig.21 *Audio, 00.01'Back to the Future'*



Notice how the F# (add2) in the Eadd2 becomes the root of the subsequent F# chord and notice how Silvestri makes an issue out of it by removing the 3rd from the Eadd2 chord making it stark and bare and thus highlighting the add2

The music for the *Back to the Future* movies was partly built on the #4th. Below is the main, iconic theme.

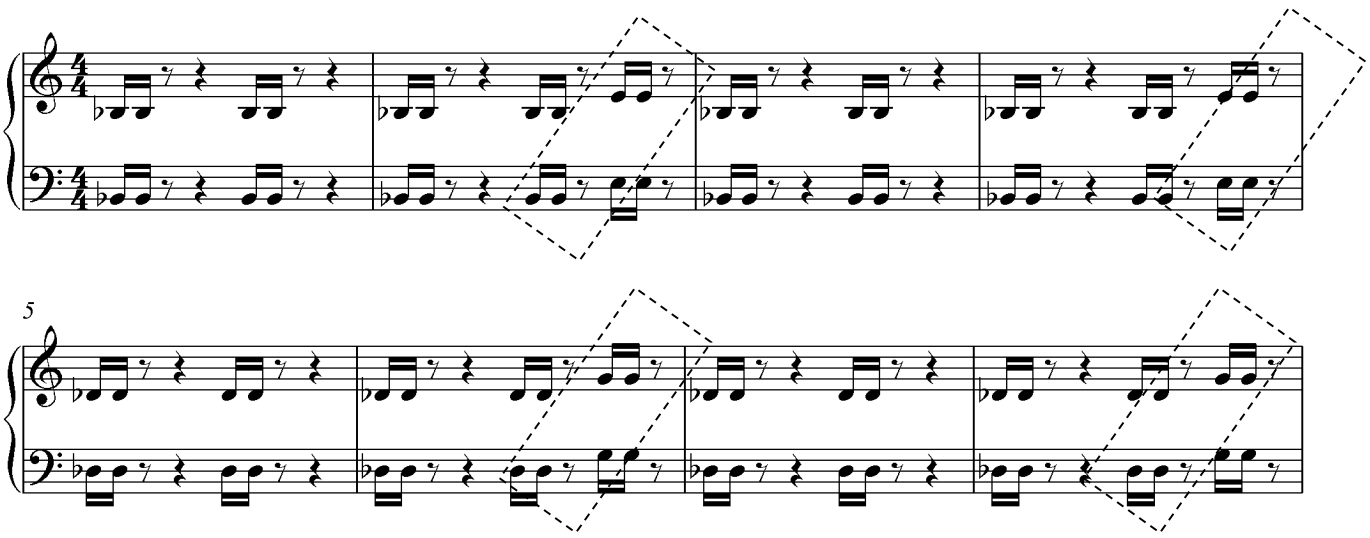
Fig.22 *Main theme from Back to the Future*



The F# in bar two and three of fig.20 is technically a major 3rd of the D/C chord, but because of the sparse, frantic and fractious orchestral accompaniment on the recording, it transports as an augmented 4th of a C chord. The #4 is a big component of the whole *Back to the Future* musical signature.

The section below, from the original *Back to the Future,* shows again the reliance on the #4. This is the section where 'Iranian terrorists' (whom the Doc had stolen plutonium from) discover him and Marty in the parking lot as the Doc is preparing to time travel. The sense of urgency is created by the brass instrumentation, rhythm and the #4 interval which is the main harmonic identifier.

Fig.23 *Movie, 00.27.27 Back to the Future*

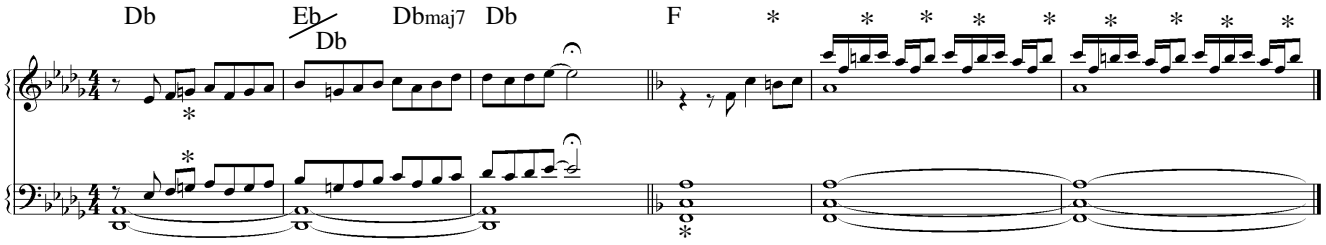


The addition of the #4 (effectively the whiff of a Lydian mode) is used heavily in sci-fi scores but is also used brilliantly in context of a need to convey 'power and wonderment'.

COLUMBIA TRISTAR INTRODUCTION

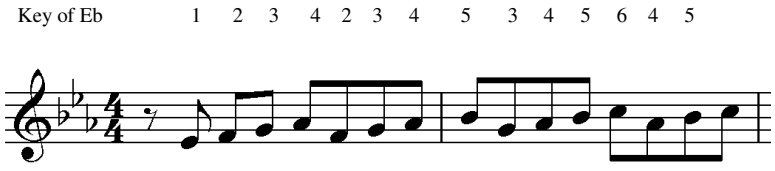
The following example is from the *Columbia Tristar Pictures* aural logo, which trades heavily on the #4. The surrounding orchestration is crucial when determining the context of how the #4 will sound. The *Columbia Tristar* example exudes power and wonderment because of the simple but powerful orchestration. Danny Elfman uses the interval heavily as we will observe later in this chapter, but does so in a more diversely orchestrated way, creating the kind of synergy between movement and instrumentation which delivers a dark yet playful feeling. Sharpened 4ths are denoted by *

Fig.24 *Columbia Tristar theme*



The first couple of bars of the same intro are scored out below (fig.25) but this time in context of an Eb key centre. The melody is perfectly scalic in construction.

Fig.25



Play the segment to the left as written with an accompanying chord of Eb then play it again with its original context of the Db to see how effective the G note is in context of its surroundings.

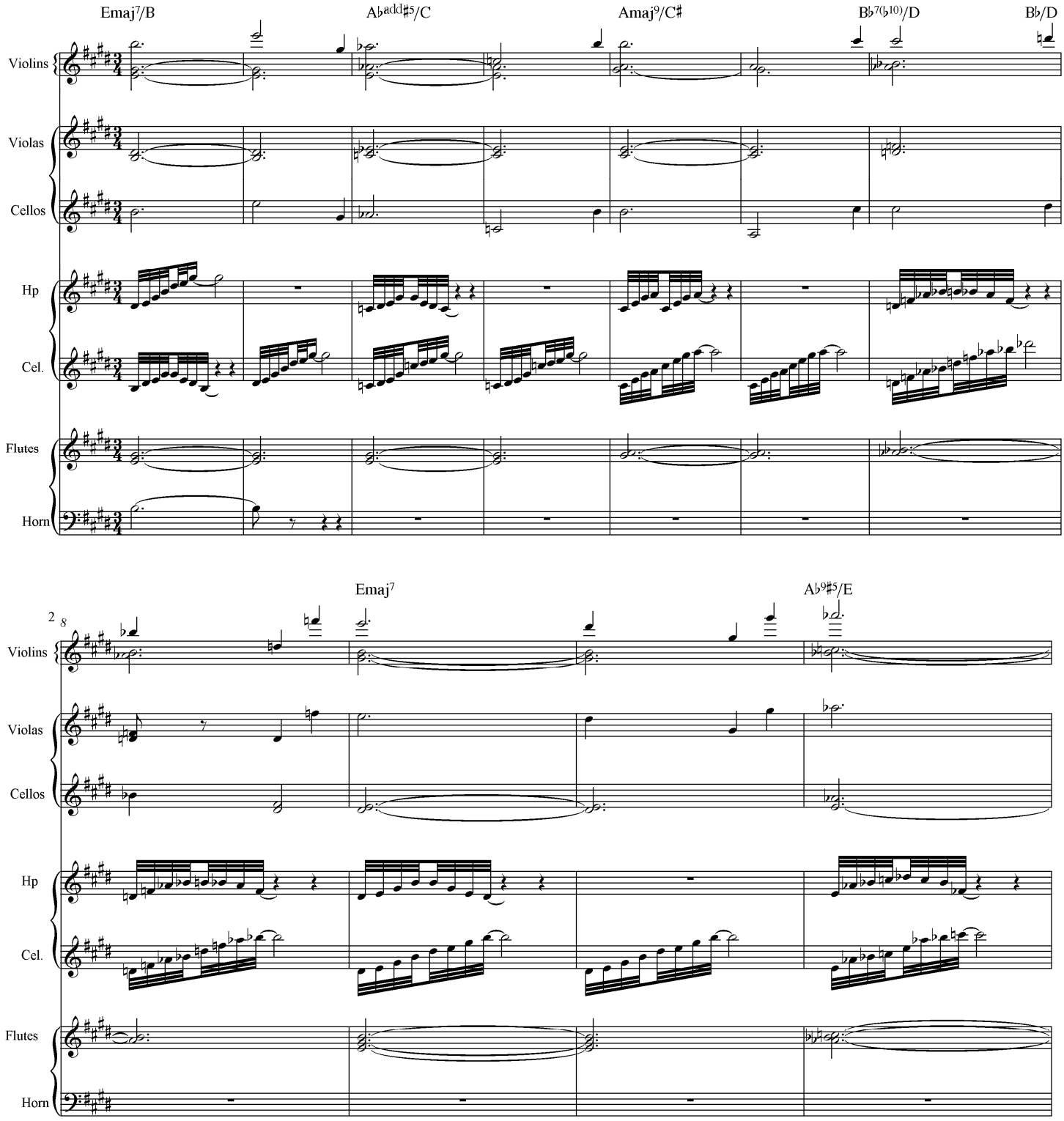
Essentially, in context of the original version (fig.24) the true power of the #4 is that we hear it as a maj3rd of an Eb chord. The note subtly suggests a different chord to the one being played; it implies two keys simultaneously both overlapping each other.

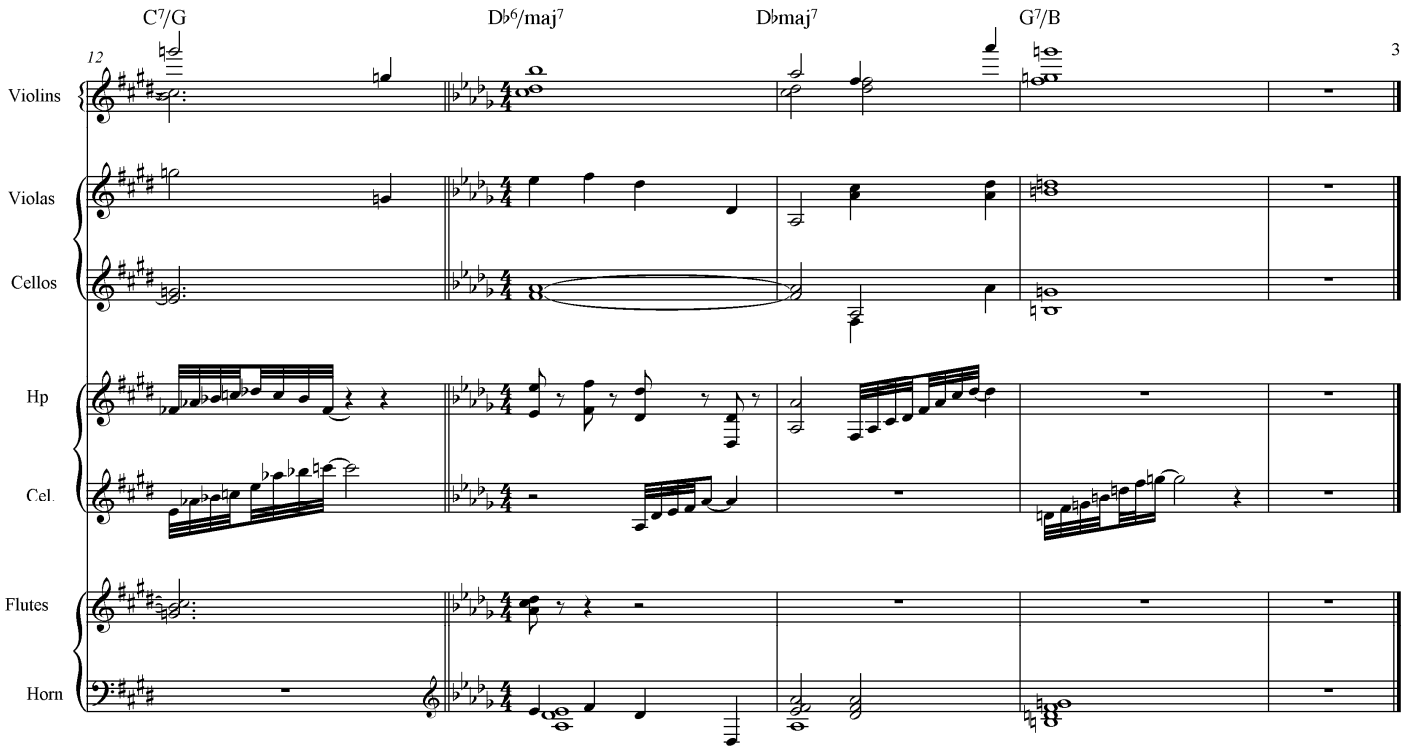
CLOSE ENCOUNTERS OF THE THIRD KIND *John Williams*

Close Encounters of the Third Kind is a 1977 science fiction film telling the story of Roy Neary, a lineman in Indiana who has an encounter with an unidentified flying object. The title is derived from ufologist J. Allen Hynek's classification of close encounters with aliens, in which the 'third kind' denotes human observations of actual aliens or 'animate beings'. Alongside *Star Wars* and *Superman*, *Close Encounters* led to the reemergence of science fiction films

Successful composers have mastered the art of harnessing music's great power by using its various traditions, conventions and tricks to illicit emotional responses in listeners. With John Williams everything is deliberate; everything is there for a reason. There are no lazy notes; nothing is accidental. Every single emotion and reaction is provoked by science, craft, precision and placement. He displays spellbinding skill, extraordinary emotional awareness and fantastic musical ability to convert his emotional awareness into music we can all experience and enjoy. Romantic elements of the score draw on styles contained in the so-called 'weepies' of the 'golden era' (1930s – 1950s). How? What are the musical elements which create these feelings and how can they be uncovered, rationalised and explained? Let's start by looking at a typical 'romantic, weepy' section; one of the iconic moments where the aliens 'trade' people they abducted decades ago for newer 'volunteers'. One section features several shots of an alien face-to-face with earthlings. It is one of the most mesmerising and emotionally charged scenes of the film, and part of it contains the music below, which comes 5.35 into the soundtrack album track entitled 'The Visitors/End Titles'.

Fig.26 *Audio – The Visitors/End Titles 05.35 – Movie 02.11.00*





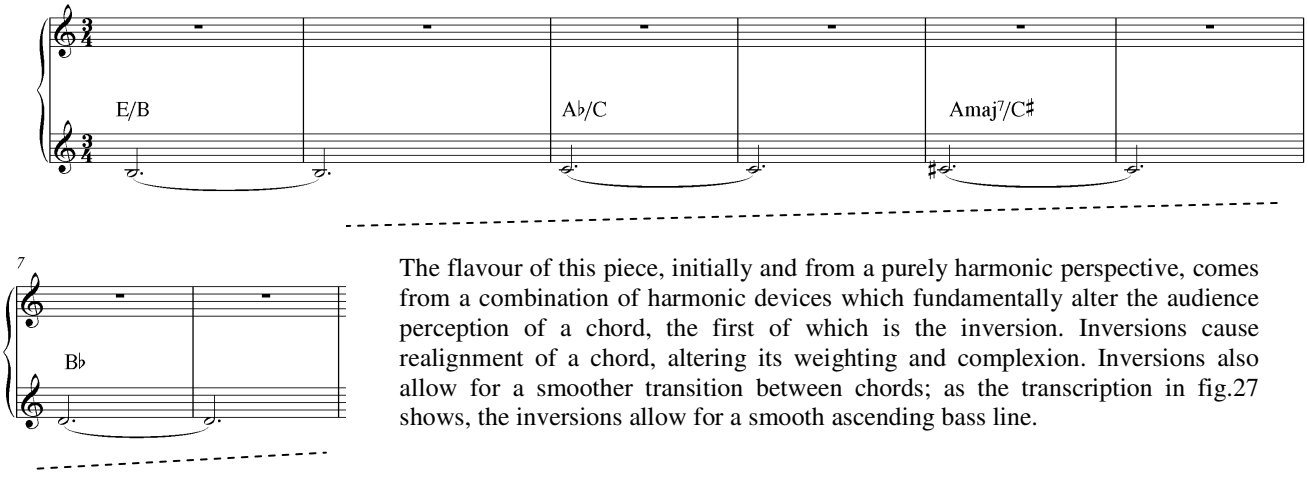
The arranger within

At the centre of any great composer is a great arranger, for this is, in reality, what composers do: they *arrange* music. They plan, coordinate, organise, position and assemble using imagination, intuition and emotion but also an almost faultless and eclectic knowledge of music structure and how to use it to provoke reaction and feeling. This is why music is such a potent but baffling thing to understand for many people. It is the result of an almost limitless number of potential musical situations being manipulated and decided on by human interaction. Thus, we bring the two things to music that music itself does not possess: *choice* and the ability to put into practice; music cannot write *itself.* The other great component in any composer's arsenal of abilities is judgement. Composers are not responsible for the fact that a particular device or sequence of chords work (just as they are not responsible for the existence of notes or chords); they are responsible for *realising* that specific situations work, for appropriating elements of music's vast array of possibilities sensitively into their own distinctive context.

Judgement is everything

Commensurate to all this is judgement. Forget profound thinking 'genius' or great art for a moment and think instead of something much less exciting but more provable; the power of great judgement. The issue is not that a particular chord sequence exists; the issue is whether you should use it, why you should use it, when you should use it and how you should use it. Whether it works in context of what you're doing depends on judgement. Every great composer has the equivalent of the 'cutting room floor' in their head or on paper, which is full of ideas that might work. The final arbiter of whether a melody or chord sequence goes into your piece or not is not whether it's 'good' or not, but whether it *works*. If listeners think your music is good, it will not be because of one solitary moment, even if they *think* it is. How we deliver the moment is as important as the moment itself. What will make them sit up and listen is if everything works in context with everything else. This is about judgement and architecture and structural understanding.

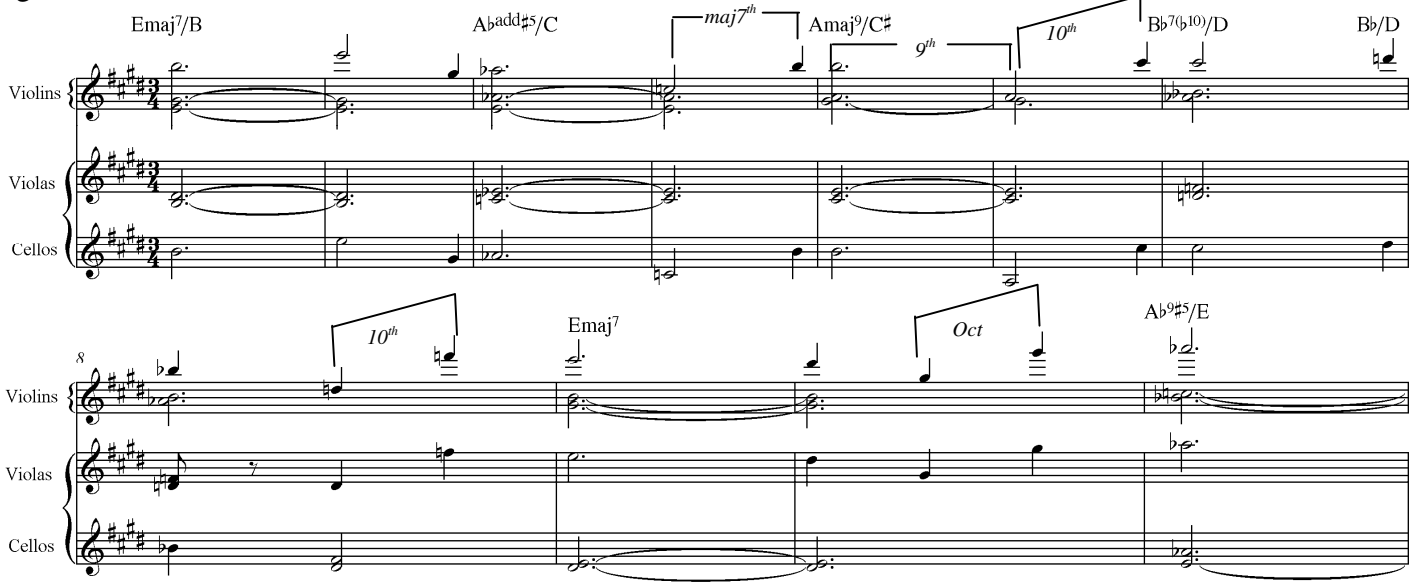
This is what the great classical composers had and this is similarly what all great film score composers have. Ultimately when our understanding and comprehension of music and how it is created has moved from meaningless metaphysical notions such as 'genius' and 'art', what defines music is *how well it is put together*. If we condense the basic harmonic information in the *Close Encounters* example from fig.26 we reveal the direction and flavour of the chords. Played in their root position the chords mean very little and lack the distinctness which so typifies John Williams. His wonderful and vivid imagination has its roots in an almost unparalleled understanding of how music works, what potential layers exist and how to extort colour and emotion from specific combinations of harmonies, melodic figures and appropriate orchestration. Let's start at the beginning: these are the basic chords which underline the segment.



The flavour of this piece, initially and from a purely harmonic perspective, comes from a combination of harmonic devices which fundamentally alter the audience perception of a chord, the first of which is the inversion. Inversions cause realignment of a chord, altering its weighting and complexion. Inversions also allow for a smoother transition between chords; as the transcription in fig.27 shows, the inversions allow for a smooth ascending bass line.

The chords of E (bars one and two) to Ab (bars three and four) share one common note (G#) but Williams has made the transition smoother and dramatised it by making the E chord into a 2nd inversion with a B (5th) in the bass and then by making the subsequent Ab chord into a 1st inversion, placing a C (3rd) in the bass. Because the B note is the 5th and the C note is the maj3rd although the notes are chromatically a semitone apart, the intervals they represent aren't, so we avoid the feeling of parallel movement. The effect of this subtle but fundamental realignment of harmony cannot be overestimated. The melody in this segment features unusual leaps which draw attention; Williams uses these excessive intervals as deliberate compositional tools. This is not a passive melodic figure designed simply to politely accompany the chords – it is strange, which can have the effect of making the listener gravitate to the harmony in order to understand it; the melody is designed to *draw the harmonies out*. With such an odd melody, listeners unwittingly search for the context in order to rationalise the meaning (see fig.28).

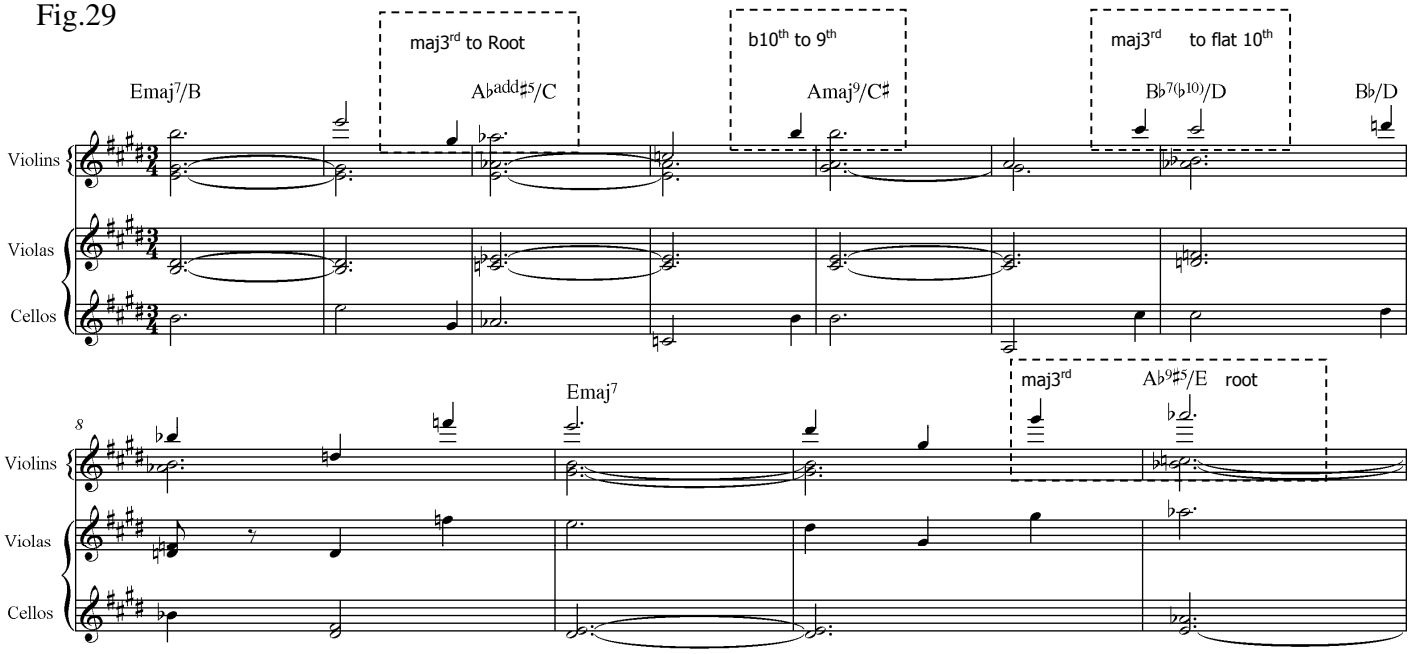
Fig.28



Now to a concept we have observed before; music's two realities; what the note *is* in musical terms and what is *represents* in context of the chord which accompanies it (its intervallic context).

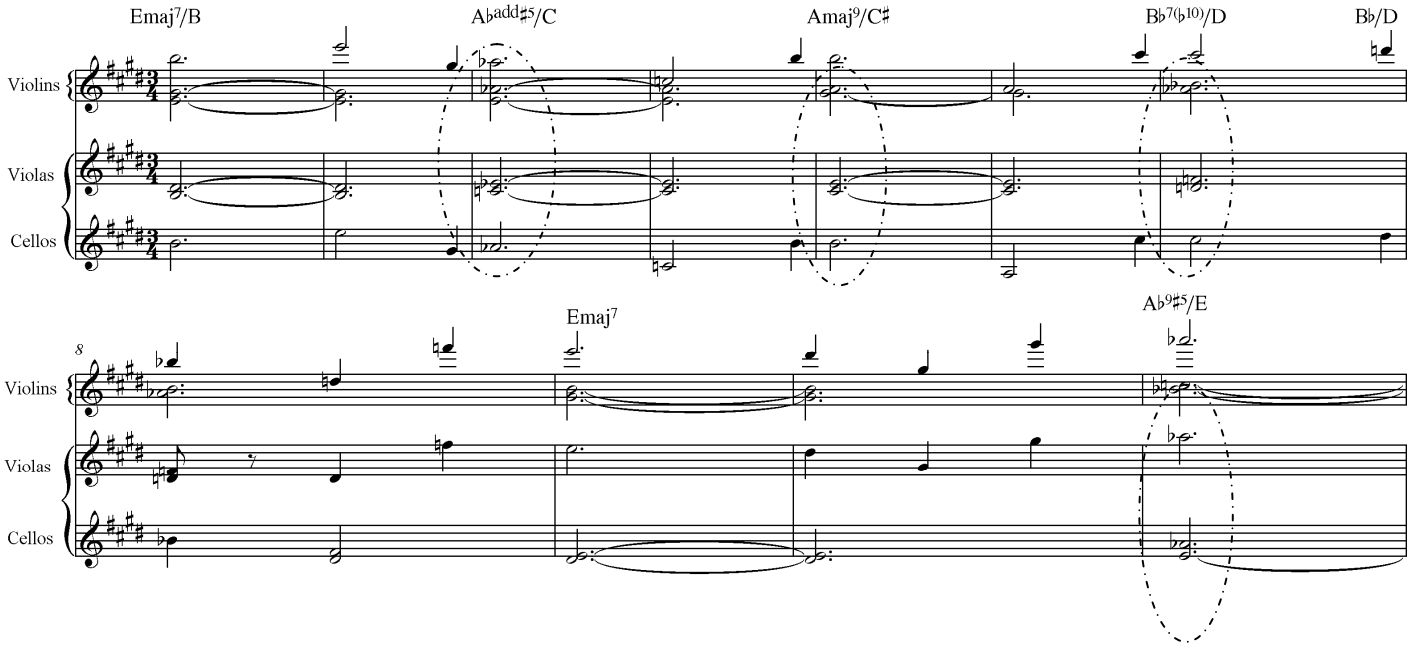
Williams makes great use of this concept; the G# (maj3rd) in bar two evolves to become the root of the Ab chord in bar three. We listen to the melody note and the chords *appear* to morph and shape-shift around the note. In bars four to five the B represents two subtly different intervals, the flattened 10th of the Ab/C chord and the 9th of the Amaj7/C#. The fact that the same sound occupies two realities in succession is one of the reasons for the mesmerising aspect of the piece. This happens again in bars six and seven where the C# melody goes from being a maj3rd of the Amaj7/C# to the flat 10th of the Bb/D.

Fig.29



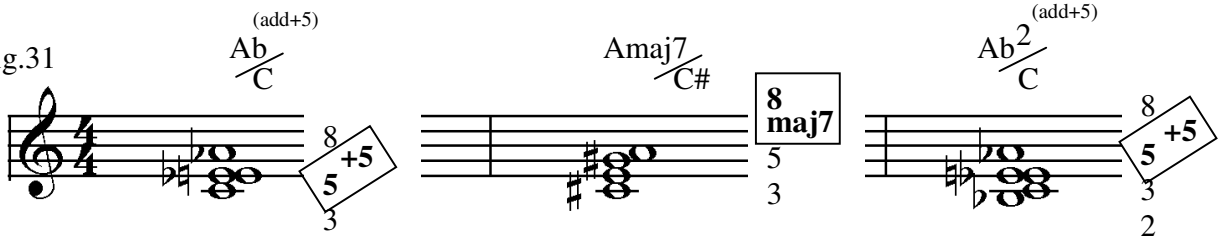
Clusters, voicings and dissonance: Clusters fundamentally distort and disfigure a chord, blurring its clarity and softening its edges. Extensions alter the flavour and weighting of a chord by injecting extra colour which can disorientate but also excite. In this piece we have a combination of the two. What we also have is the high string melody being doubled high in the cellos.

Fig.30



When composers use the #5 (or sharpened 5th) they normally omit the 'ordinary' 5th in order to accommodate what is in reality an alternative. You have one or the other; not both. What John Williams did in the *first and third* of the chords in bars three-seven of fig.30 (highlighted below, fig.31) was to add the #5 but *retain* the 'normal' 5th. This creates a clash which is only mitigated and softened by the chord being built on its rich 3rd which places the clash in the middle. Surrounded as it is by the 3rd at the bottom and the octave at the top, this creates a kind of 'dissonance sandwich' where the difficult bits are in the middle (boxed) and not exposed. The third chord has the extra subtlety of the added 2nd.

Fig.31



The chord in bar two (Amaj7) is inverted over the 3rd but has the exposed maj7/8 clash at the top of the chord exposing and italicising it. Sympathetic voicing and orchestration compliments and assists all the observations above. The sheer number of possible harmonic variables created by the use of devices and techniques in music in general is almost beyond comprehension and yet the effect harnessed by using a specific combination is something we can, to a degree, rationalise, define and understand. None of this is accidental: with John Williams everything is deliberate; everything is there for a reason. How many times did a note stay the same but the intervallic context change? How many chords relied on inversions, extensions or clusters to transport emotionally and communicate their subtlety and emotion? This is how we blur what music is, lessening its absolutes, challenging expectations and assumptions, defying normality and progressing film music.

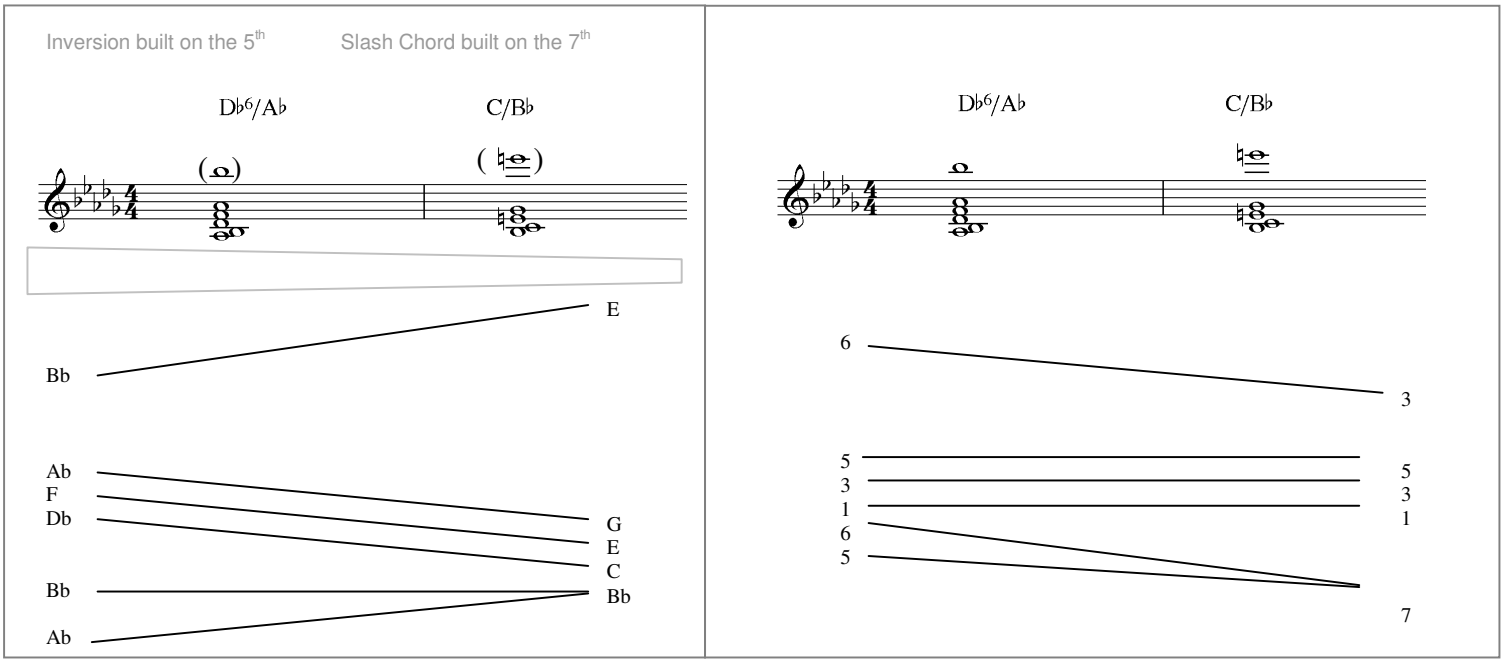
Fig.32

Perhaps another way to explain and rationalise the effect of the creative manipulation of chords through inversions, slash chords and dense clusters is to liken it to a picture which appears to contain two images at the same time (the picture to the left contains either a picture of a woman walking or a picture of a human head). We can focus on one image or the other, or we can try and focus on both. We can choose to be aware or choose to try and ignore. Harmonic devices such as inversion chords, extension chords and cluster voicing offer a subtly and slightly alternative perspective of what we might call the same 'musical image'. We sense what the chord is supposed to be but sense also its alterations; its harmonic context has been redistributed and recalculated to harness a specific, subtle and mesmerising effect.

Another section from the *Close Encounters* offers a simple two-chord sequence which conveys an enormous sense of drama, gravity, suspense but also child-like simplicity. Any chord sequence which succeeded in creating such an Aladdin's Cave of emotional riches must surely have been altered. The musical notation displays some of the reason why the chords transport emotionally and have an almost dream-like context. Ignoring the top 'melody note' and looking at the main body of the chord - going as it does from 5-part to 4-part harmony – we can see that the contrary motion in the harmony offers the feeling of 'contraction'. However, the 'intervallic example' of the chord sequence (below) reveals that the feeling of contraction is simply a surface-level musical one. The intervallic values show the centre of the chord (5th 3rd 1st) staying static but the bottom two notes merging and dropping.

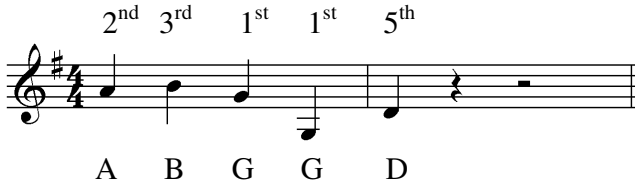
On the left we have the musical explanation for the chord. To the right we have the intervallic context. Part of the reason these chords communicate so well is because the change from one chord to the next is subtle, faint and understated. This is caused partly by the difference in the musical direction of the notes and the corresponding intervallic context of the intervals they represent.

Fig.33 *Audio, 'TV reveals'*



Much like his two-note *Jaws* theme, the iconic 'five-tone' motif for *Close Encounters* has since become ingrained in popular culture (in the film the five tones are used by scientists to communicate with the visiting spaceship as a mathematical language as well as being incorporated into the film's signature theme).

Fig.34



What is it about the theme that communicates so well? Its pivotal narrative use within the film itself is not enough to have propelled this into popular culture. The music itself must not only be able to create a memory of the film, it must also work unilaterally in a musical way, which means it must be distinctive and striking. Rhythmically it is compact and concise, suggesting a bar of 4/4 ending on the first beat of bar two. It is rhythmically easily digestible, which gives the harmony free run to communicate. The melodic line is not alone; as we have established elsewhere the concept of a melody existing without inferred harmonic accompaniment is virtually impossible because listeners search for harmonic context in order to enjoy it and rationalise a melody which is delivered 'a cappella'. Harmonic suggestion is only something we can 'turn off' if the melody is not built around a key centre.

The melody here is obviously suggestive of the chord of G given that four out of the five notes are from the chord of G and the other note (the A) is still from the scale of G. So, within this seemingly rather obvious melodic shape, what elements make it communicate? Firstly the most obvious reason, as alluded to already, is that it conveys a chord without stating it; the harmony is delivered subtly, horizontally. It reveals, rather than states. It divulges rather than declares. Secondly the last three notes are similar to *Star Wars* and *Superman* in that they contain octaves and fifths which (as we have established elsewhere) are heavily implicit of power and authority. The final touch, the most important element, is the unavoidable soft emotion and sentiment created by the add2. This entire line basically says 'Gadd2'.

BATMAN RETURNS *Danny Elfman*

We now turn to the compositional style, harmonic workings, voicings and orchestration of Danny Elfman's *Batman Returns*, orchestrated by Steve Bartek. Director Tim Burton, referring to the music of Elfman on an earlier film, but one which determined his distinctive style, said "There was no temp track. It was purely Danny". Ironically by the time it got to *Batman Returns* the only temp tracks in the back of Burton's mind were the successful scores Elfman had himself composed. Elfman had done that great thing; he'd created a 'style' which was instantly recognisable. So, moving now to Elfman's style, the following quote is interesting.

> *"Elfman lacks only conventional musical training. He appears to have acquired traditional skills, such as notation and transcription, but has come to them through a typically popular music learning method of listening"*
>
> Janet K Halfyard,
> *Danny Elfman's Batman*

As Halfyard states, Danny Elfman has developed highly attuned listening skills which are sadly perhaps sometimes lacking in 'traditionally' taught composers. The whole manner of his musical upbringing and the means by which he arrived into film scoring are refreshing. One cannot overestimate the importance of the 'self-taught' aspect. I'm not suggesting no one should ever be taught music, but I am suggesting that musicians and composers who enjoyed an element of self-teaching possess an imagination and desire that we sometimes don't hear in some solely and traditionally taught composers. In order to compose we must improvise but improvisation has never played a great role in traditional music tuition.

His 'self-taught-ness', together with his love of Ska (particularly *The Specials* and *Madness*) are some of the many things that define Elfman as being an original composer; in short, he thinks differently and brings radically influences to the film music table. Certainly to some what distinguishes Elfman is his close relationship with his own music and with his orchestrator Steve Bartek. One cannot over-play the importance of composition and orchestration which are compatible with each other. The orchestrations are clear, lucid and dramatic; they sound real, open, accessible and close-up. For a change they lack the aural Hollywood gloss one normally finds in symphonic film orchestrations. Steve Bartek's vibrant orchestrations match perfectly Elfman's flamboyant and vivid writing. The processes of composing, arranging and orchestrating sound as if they are conceived as one event, from the same person.

The arranger and the orchestrator

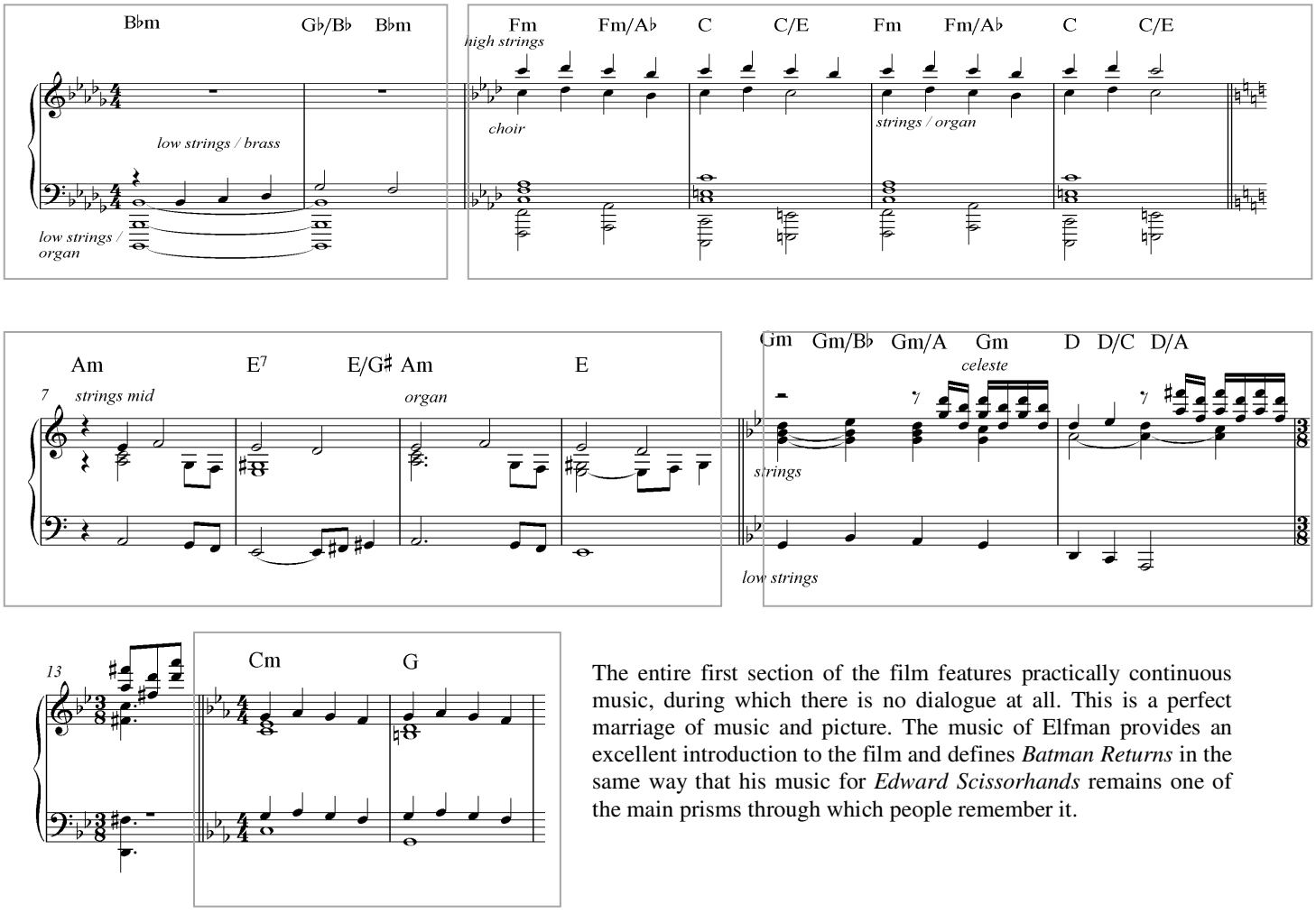
"Maintaining it all in my head gets harder and harder. I can write a fairly elaborate sketch – 12, 14, 16 staves of music – but I rely on my orchestrator to put it into legitimate context" - Danny Elfman

Janet K Halfyard,
Danny Elfman's Batman

In Elfman's case what is clear is that he does the arrangements and Bartek does the orchestrations. So in this context what's the difference between an arranger and an orchestrator? We associate the term 'arranger' with smaller units such as big bands, concert bands, pop ensembles etc, and we associate the term 'orchestrator' with much bigger situations like a symphony orchestra. But this is not the only way to interpret the difference between arranger and orchestrator; in broad film music terms the arranger (usually the composer) decides what instruments to use and how and when to use them, stylistically and contextually. He or she provides detailed but often scaled-back sketches, perhaps on seven or eight staves. Orchestrators then interpret this in a much more literal, specific and larger sense, making decisions about divisions within orchestral parts and deciding how to extract the composer-arranger's wishes. Elfman is a great exponent of the inversion as a writing tool. Also he is arguably one of the biggest key-changers in the business too. Certainly the musical style which served him so well from *Batman* right through to *Spiderman* is primarily based on a rapid, often disorientating fast-paced navigation through a maze of key centres and applying various themes and ideas onto different parts of the orchestra.

Take the section below from the beginning of his ground-breaking score for *Batman Returns.* Essentially it is the same idea in five keys with various inversions and orchestration styles (strings, organ, choir etc) to break the monotony.

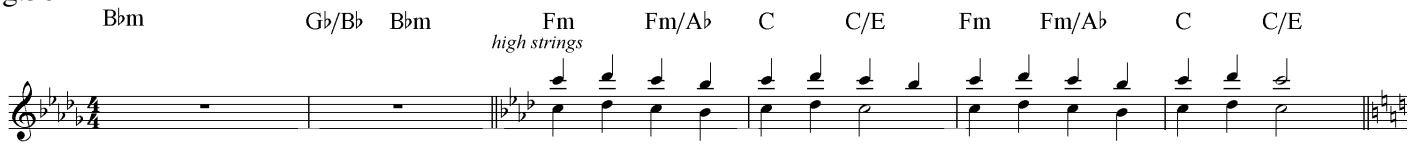
Fig.35 *Audio, Birth of a Penguin – part 1 – Movie 00.00.01*



The entire first section of the film features practically continuous music, during which there is no dialogue at all. This is a perfect marriage of music and picture. The music of Elfman provides an excellent introduction to the film and defines *Batman Returns* in the same way that his music for *Edward Scissorhands* remains one of the main prisms through which people remember it.

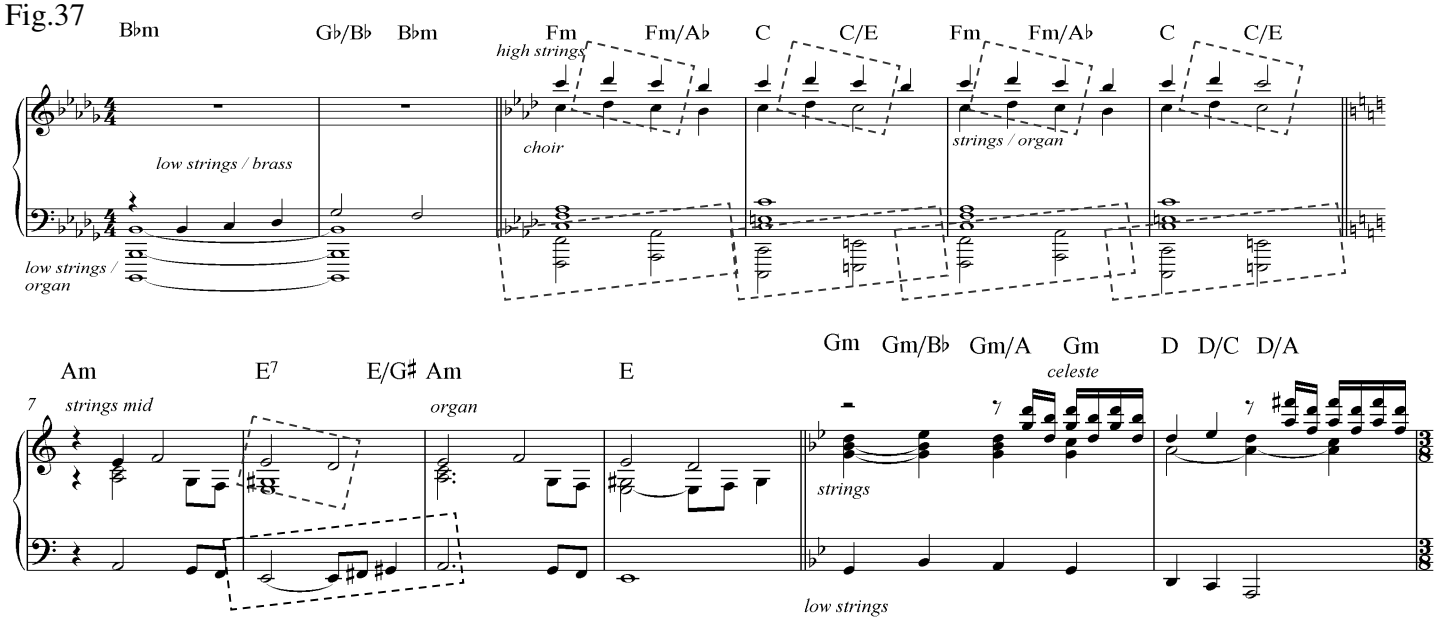
As always the key question is 'why'. Why and how does the music work so well? How and why does it conjure up the right emotional state in the viewer / listener? The melody alone, as we can see from the line below, is characterless and repetitive.

Fig.36



Context is everything; so what *is* the context which so defines this theme? In the same segment below the harmonic contours which so determine the success and emotional communication of this piece are highlighted. The contrary motion displayed by both lines is a great indicator of how music 'breathes'. The melody here is basic and unremarkable; what brings it to life are the harmonies which surround it and therefore identify and define it. Because film music lacks words to sully or confuse its emotional impact, it is reliant more on the internal workings of the counterpoint and instrumentation.

Fig.37

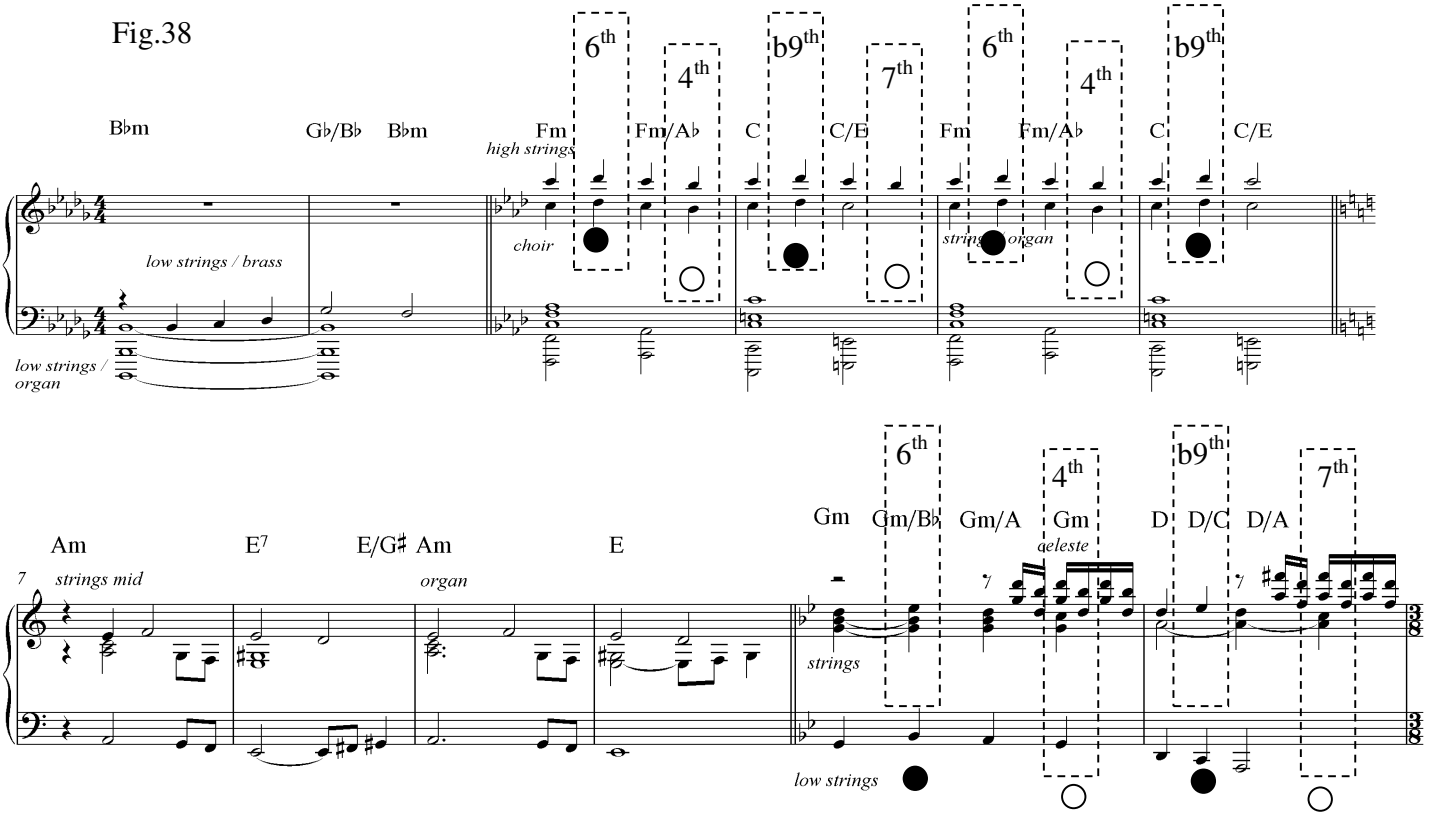


Elfman and his orchestrator Steve Bartek have created vibrant arrangements which have become synonymous with the compositions they define but which also deserve study in their own right. Elfman and Bartek's use of the Celeste is effective. The Celeste has come to be associated with mystery, fantasy and 'things not of this world'. In *Batman Returns* and *Edward Scissorhands* Elfman and Bartek use Celeste to portray characters whose 'innocence' stems from being dislocated from our own reality, which makes them potentially frightening and scary. The use of voices, another big Elfman / Bartek characteristic, particularly children and women's voices, are often found in films dealing with horror, danger or the supernatural. In *Batman Returns* and *Edward Scissorhands* the wordless boys' choir lends the film a sense of 'twisted Disney' scoring, managing to evoke something of choirs used in films like *Pinocchio.*

Two notes are particularly effective and communicative in the opening segment of *Batman Returns*: Db and Bb. They communicate because they represent the tension within each bar in the first four bars of the melodic figure. They also communicate because the notes remain the same but their meaning changes; same note, different intervallic meaning. The Db functions as minor 6th (bars three and five) and flattened 9th in bars four and six. In addition the Bb functions as 4th (bars three and five) and 7th in bars four and six (this is detailed in fig.38).

In both cases the Db creates a greater effect than the Bb (the minor 6th is more dramatic than the 4th and the flattened 9th more dramatic than the 7th). This complex information lies at the centre of how and why the segment communicates.

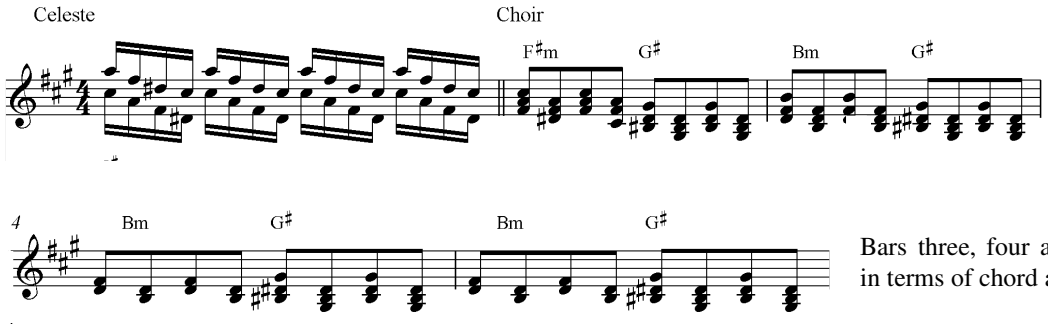
Fig.38



The section below is an excerpt from the opening sequence of *Batman Returns* and features a combination of Celeste, choir and the use of inversions which so colour Elfman's work. First let's look at the piece with accompanying chords without inversions, in root position.

Audio - Birth of a Penguin - part 2: 01.31 – Movie 00.03.48

Fig.39

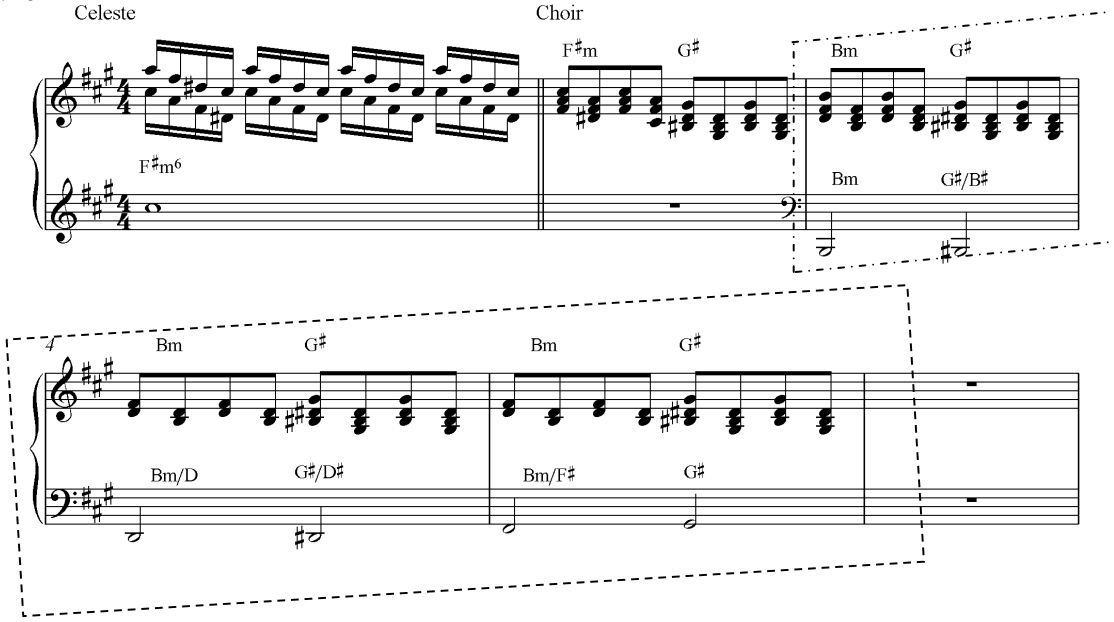


Bars three, four and five are identical in terms of chord accompaniment

.

The actual version below represents a dramatic example of how the use of inversions and smart orchestration can affect the piece's ability to communicate the gravity and drama of the moment.

Fig.40



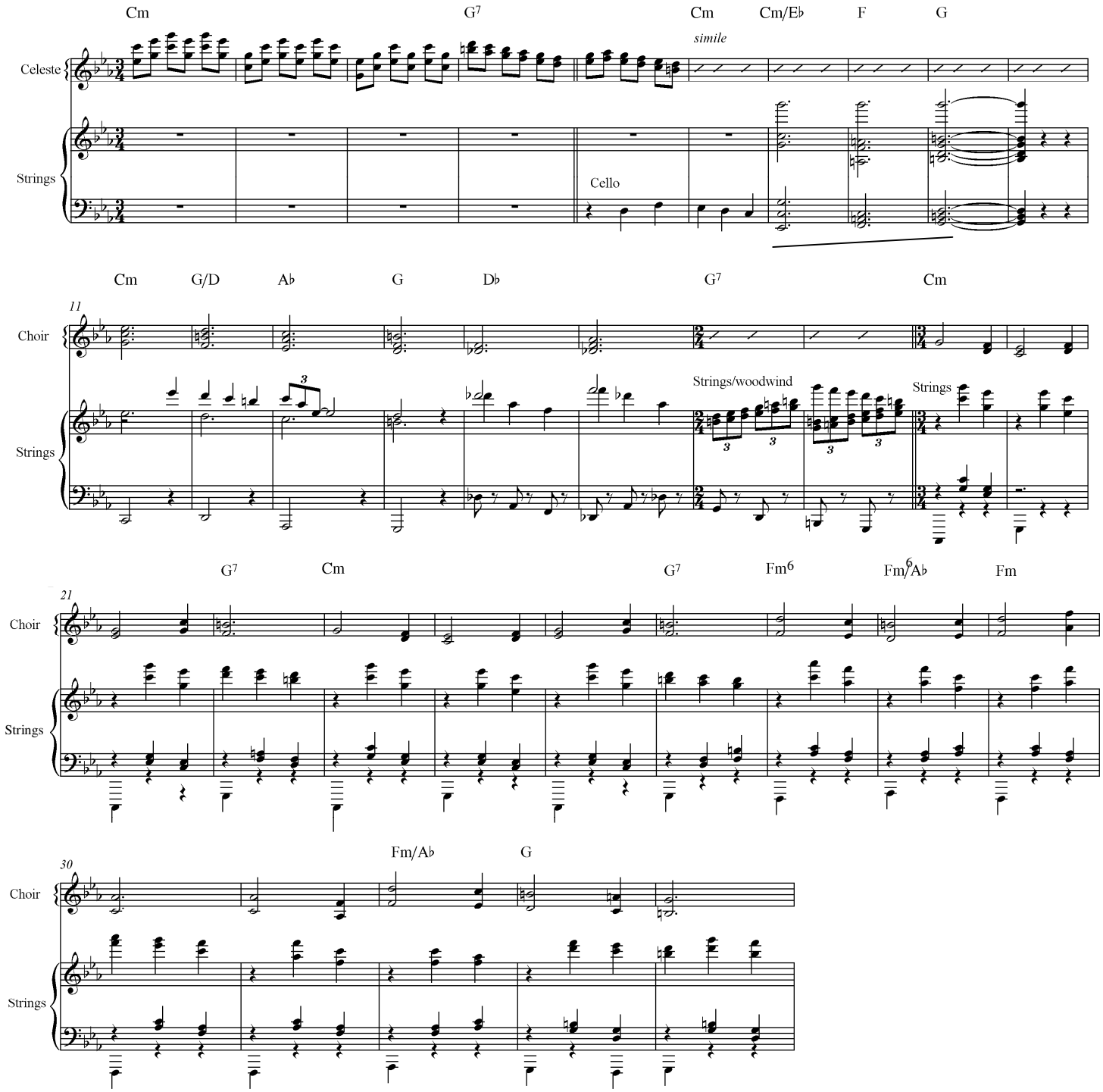
The use of inversions alters the harmonic dynamic, subtly challenges the expectation of the listener, but also allows for an ascending bass line, which functions as a dramatic counter melodic figure.

EDWARD SCISSORHANDS *Danny Elfman*

Edward Scissorhands is a 1990 fantasy film directed by Tim Burton; it is the story of an artificial creation called Edward, who has scissors for hands (the reason being that his creator died before completing him). Edward lives alone in the archetypal gothic mansion but is 'taken in' by a suburban family and falls in love with their teenage daughter Kim. The Inventor of Edward was played by Vincent Price in what was to become his final performance. The main themes deal with self-discovery and isolation but there is also more than a nod towards Frankenstein and even Pinocchio. Ultimately Edward is unable to consummate his love for Kim because of his appearance, so the film can also be seen as being influenced by *Beauty and the Beast*. The film is book-ended by Kim Boggs as an old woman telling her granddaughter the story of Edward.

The film was the fourth film collaboration between Burton and Danny Elfman and for *Edward Scissorhands* Elfman produced a masterpiece. As with *Batman,* Elfman had no temp track to clutter his thoughts.

Fig.41 *Audio – 'Edward meets the world' – Introduction Titles*

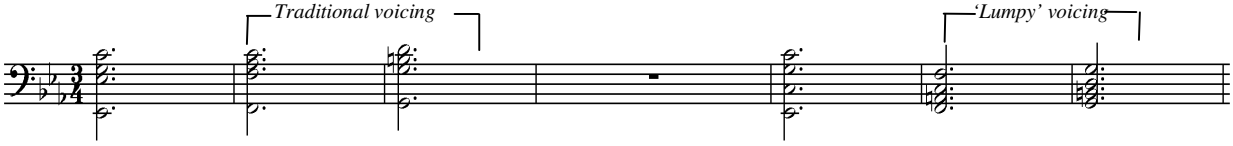


Once again Elfman makes expert and dramatic use of the inversion as a writing tool; the initial introductory quavers are based on the 1st inversion (bar one), root position (bar two) and 2nd inversion (bar three).

Although this may seem like an innocuous observation it is an important reflection because listeners are seduced into presuming the reason for the effective and enchanting beginning is totally the result of the distinctive instrumental qualities. The use of inversions is perhaps much more vividly demonstrated in bars seven, eight and nine (Cm/Eb, F and G chords); the bass has its own direction and it is the harmonic dynamic and drama created by the inversion that defines this group of chords.

What's also worth mentioning at this point is the slightly dense crunchy harmonies in the lower strings, particularly in bars eight and nine. Below I have transcribed the same chords, twice; firstly in bars one, two and three of fig.42 I have scored the chords more safely, avoiding 'lumpy' voicing and in bars five, six and seven I have transcribed as per the voicings Elfman and Bartek used. Again, this might seem like an innocuous observation but the point is that the 'lumpy' voicings (in this case essentially the low 3rd) can help in italicising and intensifying the chords. Low and lumpy voicings aren't generally speaking always a great idea; a more traditional spread of harmonies usually articulates the chords cleaner. Also there is also a limit as to how low you can go with lumpy harmonies. If you played the last two chords (F and G) of fig.42 on a piano keyboard and then tried the same close-part harmonies on lower chords, (E, Eb, D etc) there would come a point where voicings ceased to penetrate in a way which made the individual notes work at all. The F chord Elfman uses is pretty close to the boundary.

Fig.42

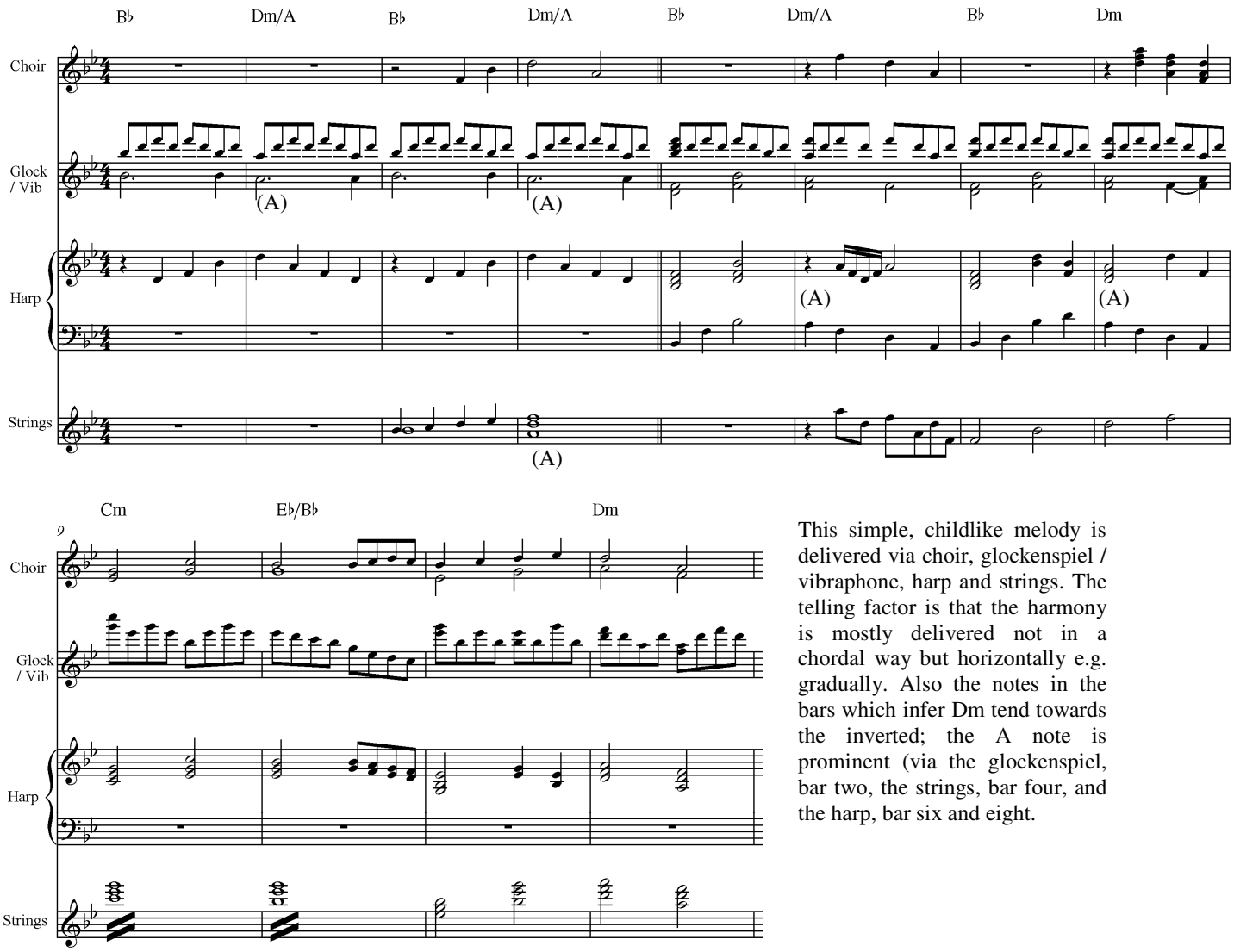


There are some interesting chord shifts in bar twelve and thirteen (of fig 41); the D bass underneath the G chord allows for a smooth transition from the preceding Cm but it also makes the move from G/D to Ab less chromatic than it would have been if the G had been in root position. Also the move from the chord of G (bar fourteen) to Db is interesting; the #4 chordal manoeuvre (as we have established countless times before) exudes a strange and enigmatic air.

With regard to the 'tune' (from bar nineteen of fig.41) it's interesting to note Elfman's use of the Fm6 chord (bar twenty-seven, twenty-nine and thirty-two). The use of the D note (maj6) in the minor chord creates a sense of surprise and romantic warmth. If we examine the Fm6 (or any minor chord with a maj6) we can see that one of the reasons for its specific charm is that it is only one note away from being a diminished chord, which goes some way to explaining its aural characteristics; indeed in bar twenty-eight, with the B melody note, we do have, in essence, a diminished chord, at least for the first two beats. Like other, similar types of chords we examine during the course of this book, perhaps the charm of the m6 is that it is *nearly* something else; it suggests and it implies but it does not quite state.

Moving now to the other great theme from *Edward Scissorhands*, 'The Ice Dance', we can see how Elfman extracts the maximum emotional benefit from simple harmonies through the prism of understatement and the power of the inversion.

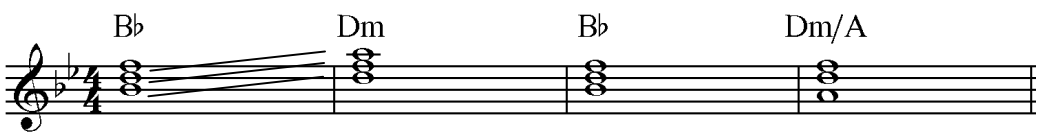
Fig.43 *Audio - Edward meets the world – The Ice Dance*



This simple, childlike melody is delivered via choir, glockenspiel / vibraphone, harp and strings. The telling factor is that the harmony is mostly delivered not in a chordal way but horizontally e.g. gradually. Also the notes in the bars which infer Dm tend towards the inverted; the A note is prominent (via the glockenspiel, bar two, the strings, bar four, and the harp, bar six and eight.

The use of horizontal harmony and inversions means the differences between the Bb and Dm chordal suggestions are subtle. By way of a more detailed explanation in fig.44 I have transcribed root positioned voicings of the chords of Bb and Dm in bars one and two. In bars three and four I have transcribed the same chords but with the Dm inverted. The lack of physical movement between the top two notes in bar three and four italicises the simple fact that only one note actually changes physically in the two chords. We tend not to notice this fact when faced with the root positioned chord change; we have the sense that all three notes move when in fact only the bottom note (Bb) has gone and an A has appeared.

Fig.44



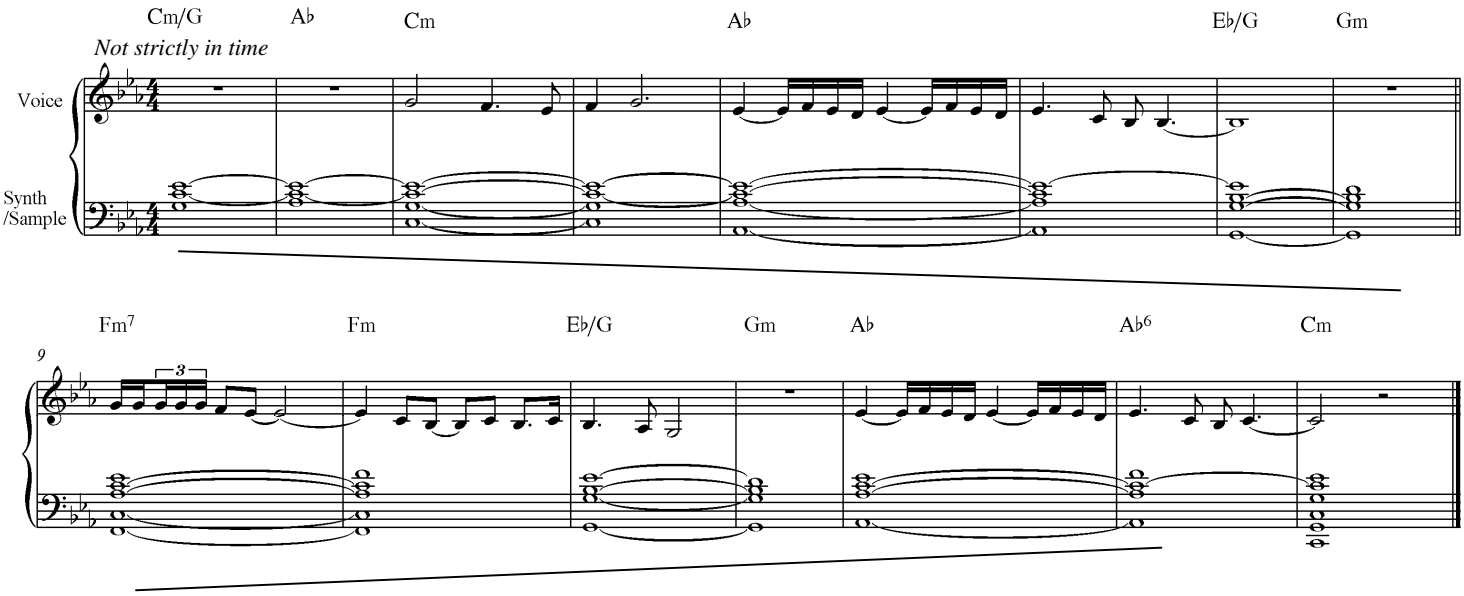
Of course what *does* change is what the notes mean, i.e. what their intervallic context is. The D and F notes in bar one and three represent the 3rd and 5th, whereas the self-same notes function as the root and 3rdin bar two and four. This intervallic change is what makes the two chords sound different; when the two chords sound different (whether inverted or not) what we respond to isn't what the notes 'sounds' like but what their intervallic function is. The *point* is that when we invert the Dm over the A bass we simply exaggerate and italicise the fact that the D and F are stationary as notes; we draw out the fact that only one note changes physically. The reason this has such a interesting effect on us is that when we hear the chord transition we hear the slightly contradictory feeling of something moving but also *not* moving. It is this experience which makes the chord sequence in bars three and four (of fig.44) smoother than the one in bars one and two. The fact that for the most part the harmonies in the main transcription (fig.43) are delivered horizontally is what makes the differences even more subtle. In short we are given lots of information but most of it is inferred and suggested which makes it more understated, delicate and restrained.

District 9 *(Clinton Shorter)*

District 9 is a mock documentary-style South African science fiction film directed by Neill Blomkamp; it was nominated for four Academy Awards in 2010, including Best Picture, Best Adapted Screenplay, Best Visual Effects, and Best Editing. The story centres on a race of aliens, which appears firstly in an enormous mother ship hovering above Cape Town and then amongst the local population. The aliens are eventually forcibly relocated to 'District 9'. The film clearly centres on themes of humanity, xenophobia and social segregation; *District 9* was inspired by events that took place in 'District Six' in Cape Town during the apartheid era, where 60,000 people were forcibly removed and relocated to allow for a 'whites only' district.

One of the film's main points about 'inhumanity' is the irony of how the character Wikus (charged with the responsibility for moving the aliens) is infected by them but becomes more humane as he gradually becomes less human. The aliens are regarded as 'prawns' in the movie and Chris Mikesell from the Hawaii newspaper 'Ka Leo' wrote: "Substitute 'black', 'Asian', 'Mexican', 'illegal', 'Jew' or any number of different labels for the word 'prawn' in this film and you will hear the hidden truth behind the dialogue". The reason I mention so much about the underlying themes of the film is to frame the importance of the music, which was scored by Canadian composer Clinton Shorter. Director Neill Blomkamp wanted a score that maintained its South African roots. Shorter found South African music to be generally quite optimistic and joyful, which didn't chime with the director's wish for a 'raw' sounding soundtrack. In the end Shorter used a combination of Taiko drums and synthesizers, with the African elements of the score conveyed in some of the vocals. This approach is perhaps best displayed in the main theme from *District 9*, part of which is transcribed below.

Fig.45 *Audio – 'Main Theme from District 9' Movie - 01.33.04*



Undoubtedly the striking synth textures and particularly the distinctive vocal qualities and characteristics play an enormous part in the effectiveness of this piece. But similar to *The Ice Dance* from *Edward Scissorhands* the piece makes a virtue out of the interaction between two chords which sound different even though only one note separates them; in other words what makes them sound different is partly a physical note movement but mainly the way we personally hear and interpret the intervallic change in the static notes.
Examples of this are the first chord of Cm/G moving to Ab (one physical change, two intervallic changes) and the Eb/G moving to Gm (bars seven-eight and eleven-twelve, one physical change, two intervallic changes). There is a great sense of evolution and development in the piece; the first eight bars have a descending bass contour whilst from bar nine to fourteen the bass movement is consistently upwards (highlighted).
The inversions therefore, as usual, serve two purposes; they cause drama *and* also allow for a consistent bass movement. This piece appears towards the end of the film and although it works well within context of the scene, it also functions as a wider emotional commentary on the film. The music, when immersed with the narrative of the film, is pensive, brooding and reflective; contemplative and thoughtful.

All in the name of economy

By way of summing-up some of the issues in this chapter, its worth reiterating that successful composing, professional composing, is at least partly about *economy*. One of the many skills common to most successful composers is the ability to economise, to plan, to build but to let the music breathe. Successful film music is where no phrase seems too long or short for the scene; it is where melodies work perfectly with accompanying chord sequences and it is about harmonies and chords that sound like they belong together, like there is an inevitability to it; as if you can't envisage it any other way. But economy of purpose also comes into it; the ability to decide, commit and finish. The world is full of wannabe composers, many of whom have a house-full of 'nearly finished' ideas. They can play you 'bits' but rarely the finished article. This is because one of the most crucial abilities a composer needs is the ability to 'finish'; the ability to zip it up, formalise it and be judged. The nearer the end you come to a piece, theoretically the more it ties itself up, sorts itself out, limits the possibilities open to you and closes off alternative avenues which are no longer appropriate. In many ways this is how the composition *itself* rationalises what it is. Finishing a piece can sometimes seem like an exercise in compromise; this is where the different sections suddenly have to tie together. Like any process, the end often involves contraction, consolidation and compromise as the piece slips into place. Again, this is about economy.

The end of the process of composition should be the most predictable and unsurprising aspect of the whole thing. If your piece is structured coherently with direction, it should contract and disappear down the plughole of an almost inevitable completeness, right in front of you, as you near the end. But it is precisely this process which, ironically, alienates many composers and disables them from 'finishing'; from becoming 'proper' composers. This is because for many people the process of trying out ideas is what drives them. This is art's comfort zone, its relaxation area; the 'green room' of creativity. Endless pontificating is exciting, non-committal and relatively stress free. But committing your ideas to a finished version brings the sobering context of reality into the equation and highlights the eternal fear of the end; of being judged.

The same mental process that makes many composers endlessly apologise in advance of a performance of something new is the same process that sometimes prevents them from 'finishing'. It is a lack of self-belief which translates into a reluctance to complete. Earlier in the book we looked at the issue of musical improvisation, specifically how tied it was to the concept of verbal improvisation. To revive this theme briefly, there is a link to the current topic of discussion, namely the inability of some composers to 'finish'. Think of how many people speak to each other without actually zipping up the sentence properly. How many times have you known a sentence to be left hanging; there is no need to finish it because it has been understood. People who *do* finish sentences coherently and emphatically even seem to appear unnecessarily formal in their delivery. The process of composition must finish emphatically; formally.

It has to have structure which binds it together, and the way all the loose ends tie-up essentially represents the final context of how it will be judged. If composers don't do this, music ceases to 'fit together' as convincingly as it should.

The need for composers to economise comes up again and again. Sometimes we come across iconic/famous ideas which, if they'd continued for much longer, would have ceased to be effective. Alternately we sometimes come across ideas which, had they been shorter, would have not possessed the gravity and drama which so defined them. People always assume the 'idea' is everything. But the idea is actually nothing without the ability to deliver it safely to the context which will ultimately define it. This is about economy and rationalism, the twin skills which are often the difference between success and failure. We find major skills in any successful composer are the ability to know when enough is enough and the ability to 'close it down'.

Chapter 4
HORROR

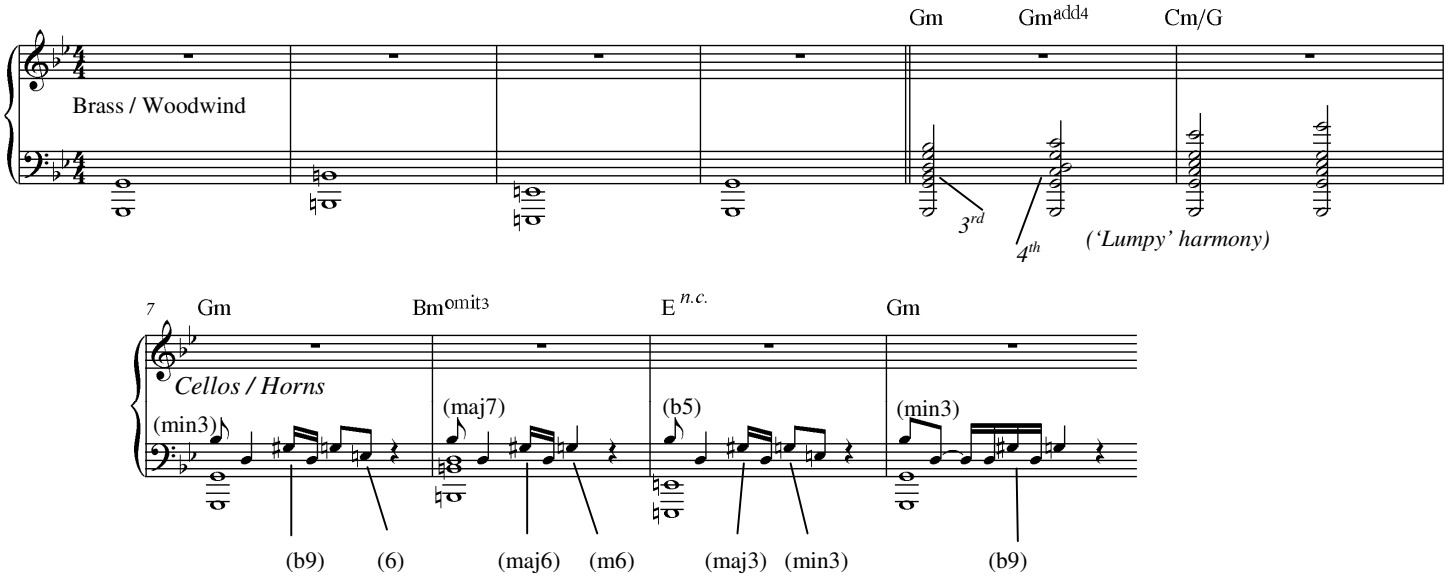
This chapter analyses some key musical repertoire of the horror movie genre in order to expose any commonalities, consistencies, structural or harmonic similarities or significant and communicative compositional approaches. Music analysed includes:

Final Destination (Shirley Walker) *Predator* (Alan Silvestri) *Silence of the Lambs* (Howard Shore) *The Exorcist* (Tubular Bells - Mike Oldfield) *The Thing* (John Carpenter) *Wrong Turn* (Elia Cmiral) *Drag me to Hell* (Christopher Young) *A Nightmare on Elm Street* (Charles Bernstein) *Scream* (Marco Beltrami) *Poltergeist* (Jerry Goldsmith) *The Grudge* (Christopher Young) *Anaconda* (Randy Edelman) *Silence of the Lambs* (Howard Shore) *The Shining* (Wendy Carlos)

FINAL DESTINATION *Shirley Walker*

Capitalizing on our morbid fear of death, *Final Destination* is a 2000 American supernatural horror movie (now franchise) about a group of teenagers who 'cheat death'. A student on a plane which is about to take off has a premonition that the plane will crash after takeoff. He panics and leaves the plane with a group of others. Ultimately the plane does eventually crash. By saving himself and a handful of other passengers the main protagonist has altered the future, or 'death's design'. The group of teenagers continues to be stalked by 'death', which claims back their lives one by one. The idea of an invisible force killing its victims is not a new one, but the idea of 'death' having a design and a plan works well in a modern context. One of the main points which so enticed producers into making the film is that there is no physical figure – no monster or killer. There is no Michael Myers or Freddie Kruger. You never see or hear the killer. The late Shirley Walker was one of comparatively few female film score composers working in Hollywood. She wrote her film scores entirely by hand and always orchestrated her own scores, something relatively rare amongst film score composers. *Final Destination* was arguably one of her most effective works; the main theme succeeded in portraying a portentous, threatening and ominous air.

Fig.1 *Audio – Final Destination Soundtrack Score Suite 00.00* Movie – *00.00.00*

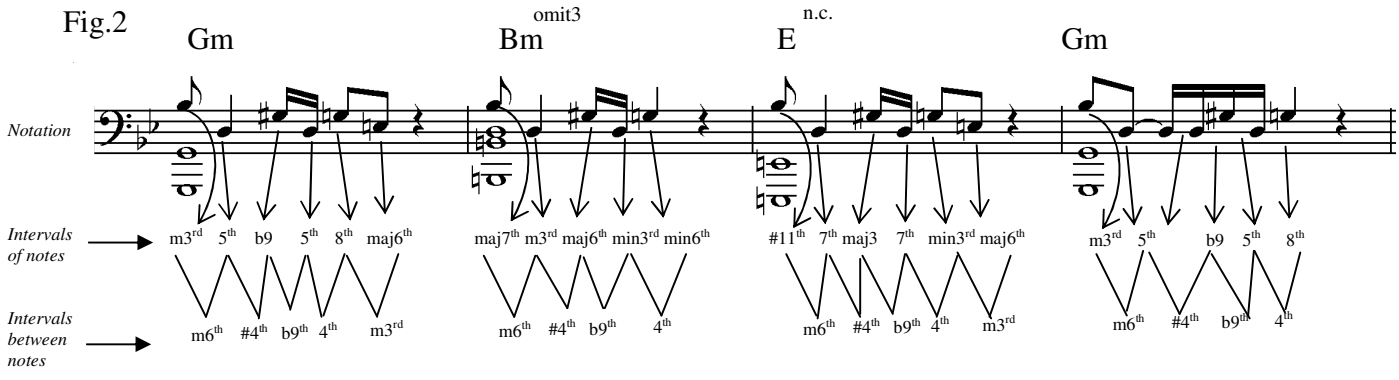


As ever, the point is, how did it manage to portray such specific emotion? The octave bass notes in the first four bars are followed by a series of four chords scored out for brass over two bars. A combination of the 'lumpy' harmony (e.g. the low min3rd) in the first chord in bar five, followed by the octave added 4th (in the second chord) creates an interesting and vivid tension. The tension is added to by the close harmony of the lower added 4th next to the low 5th (bar five, again) and is further added to by the unmistakable and hard textures of the low-to-mid brass. In terms of character the low and lumpy add4 does not produce anything as distinctive as, for example, the #4 or #5 but instead produces an uncomfortable awkwardness, which, coupled with the film's narrative context and opening graphics, becomes dark and threatening.

The motif itself arrives on bar seven and features an array of strange and discomforting intervals. The initial strength and character of the minor 6th interval (between Bb, min3rd) and D (5th) is followed by the G# - a difficult interval over a G minor chord. The G# down to D represents a #4 interval and the bar ends on the E natural (maj6th of Gm). An almost identical line appears in bars eight-ten with the melody hitting some difficult intervals (highlighted) which succeed in blurring any feeling of real harmonic integrity. We have the juxtaposition of, on the one hand, a line which has *rhythmic* structural integrity and unity and a unilateral melodic consistency, and on the other hand the same melody producing intervals/harmonies designed to wrong-foot the listener, together creating a very real sense of unease. The entire melodic phrase is bookended by easy-to-listen-to intervals (Bb, the min3rd and G, the root) but in the bars in between the beginning Bb of each bar states firstly the maj7 over a minor chord (bar eight) and secondly the b5 over the E *nc* chord (bar nine) – both difficult intervals to rationalise. We tend, perhaps inevitably, to rationalise intervals in a melodic line in context of their relationship with the chord which accompanies the line. We can refer to this as the 'collective harmony' in that the notes in a particular bar are all heard in context, usually, of one accompanying chord or chordal suggestion. But sometimes an equally telling harmonic dynamic is to be found in the relationship between each of the notes in the melodic line. Scrutinizing the intervallic relationship between the notes in a melodic line offers us an insight into an often subtly separate flavour of harmony. Inevitably most of the time the 'horizontal harmony' (the harmonic flavour created by the intervals which exist between the melody notes) bears a striking resemblance to chordal harmony; this is why they work so well together.

Below (fig.2) the melody line from *Final Destination* is transcribed plus the intervals the notes represent in relation to the chord (underneath). Underneath *these* are written the intervals that exist *between* the melody notes themselves (the horizontal harmony). The point I raise is not purely to prove an abstract theoretical irrelevance; the point is that the subtle differences that sometimes appear between, on the one hand the unilateral horizontal harmony created by the melodic line, and on the other hand, the way the melody relates to the actual supporting chord, can affect how we listen. When we listen to any melodic line which is accompanied by a perceived sense of chordal harmony, we listen to the contour of the melody (the notes going up and down) and their relationship to the accompanying chords. But what we are also aware of and affected by, if only subconsciously, are the intervals between the notes themselves. In the example below (fig.2) we can see the horizontal harmony of the melody possesses some interesting dynamics (m6, #4) irrespective of its separate relationship with the supportive harmony. The intervals between the melody notes contain a whole series of separate, different characteristics and colour, which run parallel to the way the melody interacts intervallically with the chords, represented below purely as symbols. The interesting thing here is that for nearly the whole four bars of the melody the intervals between the notes are consistent and therefore create their own melodic identity.

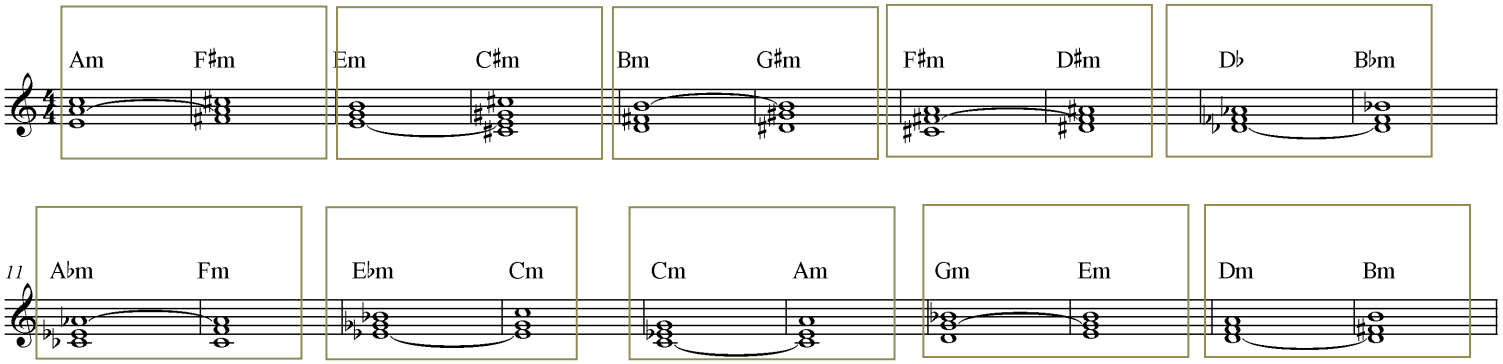
Fig.2



Another typical sci-fi/horror chord sequence

We have seen before how certain chord sequences can evoke fairly predictable human emotions and responses. The following two chord trick (bars one-two), which is repeated in different keys for the rest of the example, is typical of the type of chord you might find in sci-fi or horror scenarios. The sequence (whereby we go from any minor chord to a minor chord which is itself a min3rd below and is therefore outside the key centre of the first chord) can create tension, apprehension and anxiety. It does this precisely *because* it is outside the key centre of the first chord and because there has been no attempt to navigate to the new chord in a predictable or rational way. The comparative success of this chord maneuver (which works just as well in reverse) and the fact that we find it mildly unsettling prove once again how subservient we are to standard chord sequences; how obedient and compliant we are as listeners.

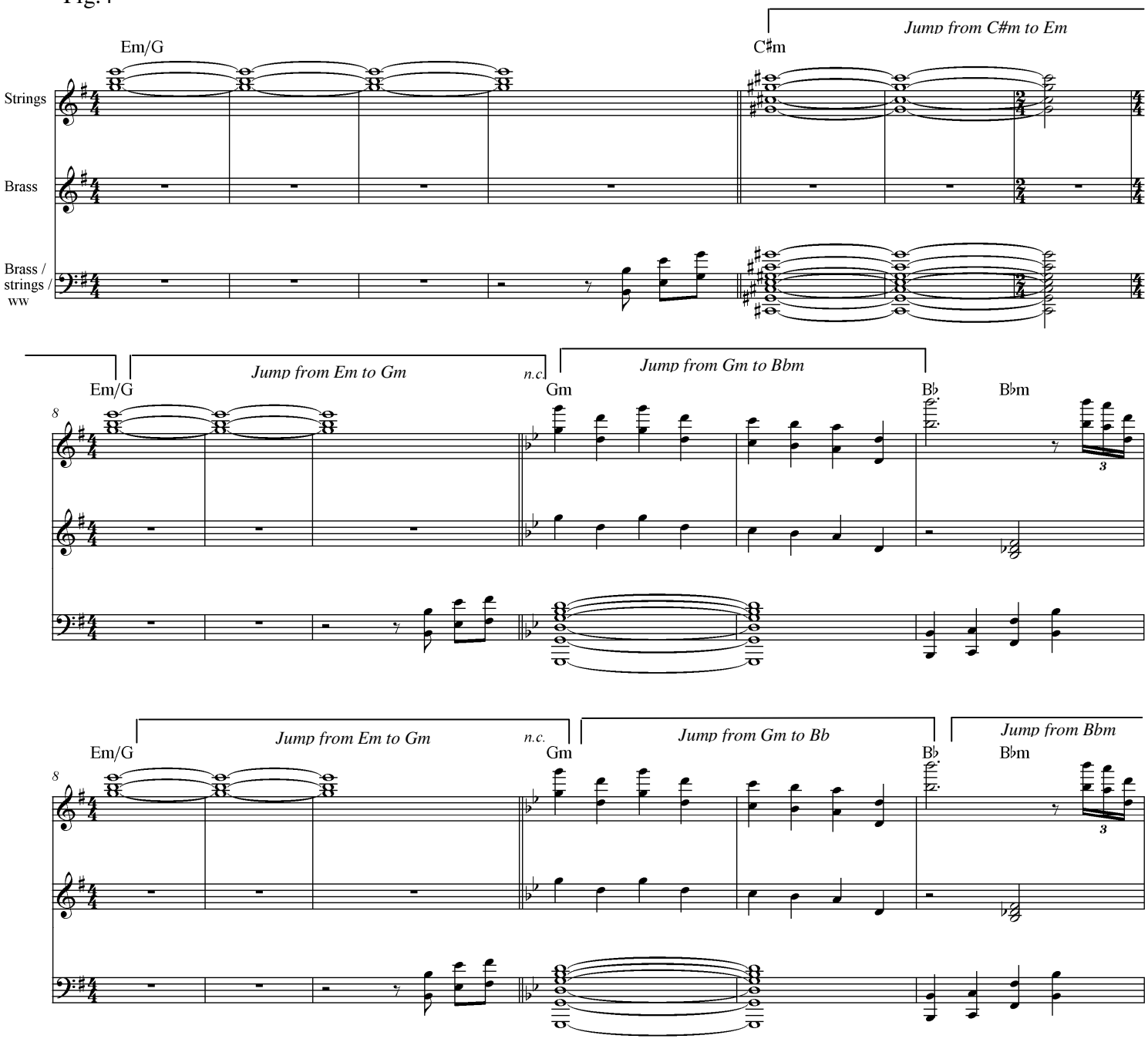
Fig.3

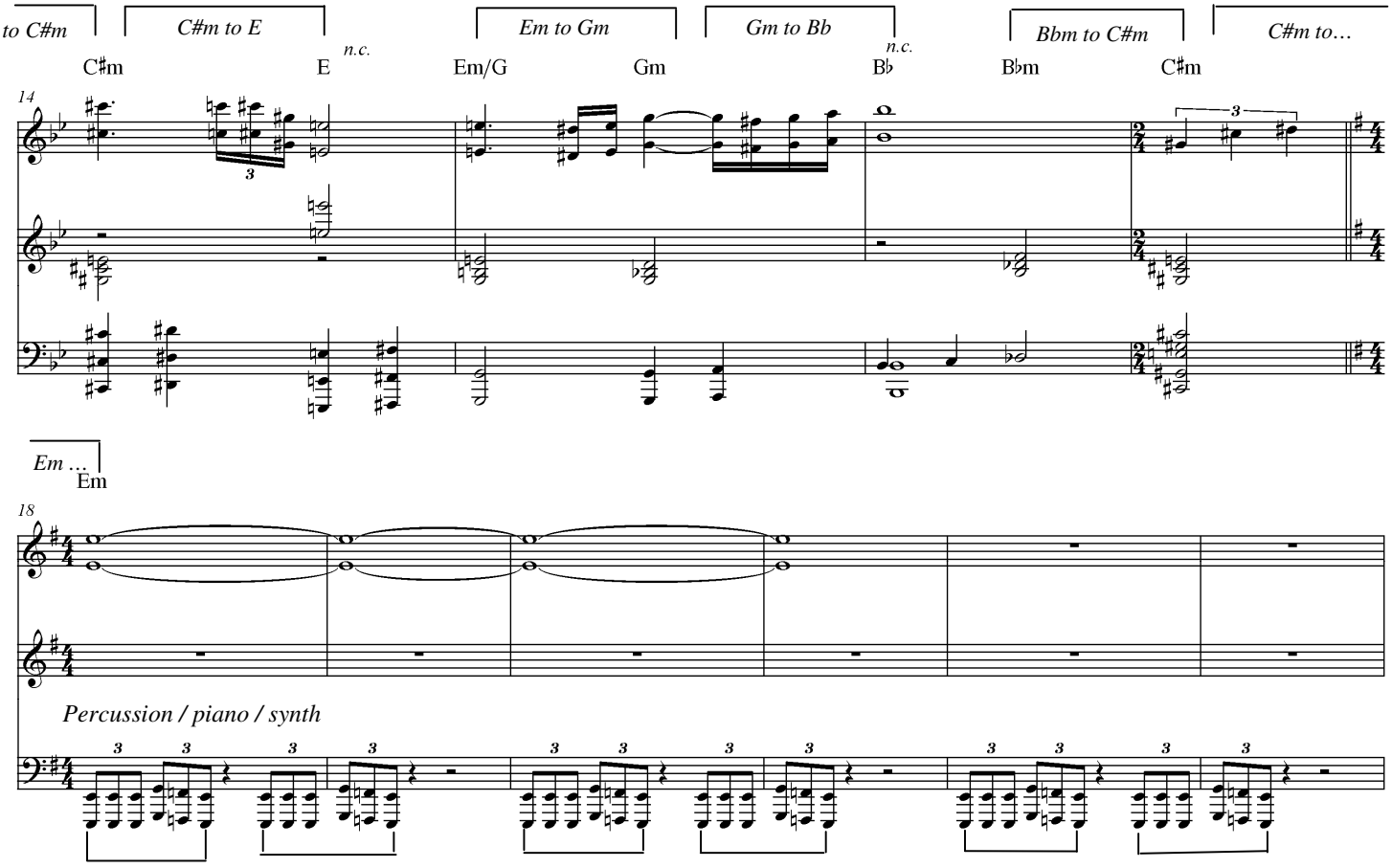


PREDATOR *(Alan Silvestri)*

The type of chord sequence in fig.3 is one of the reasons the main title track to the 1987 movie *Predator* is so successful. Alan Silvestri is one of the most versatile and talented composers working in Hollywood. His films span numerous styles and approaches. In the *Predator* sequence below we can see and hear how effective the jumps are; the out-of-key-centre changes demanding attention and suggesting danger or apprehension.

Fig.4 *Audio – Predator Main title 00.40*





Looking at the piece purely in terms of harmonic shifts, the success of the entire section is built partly from a combination of the min3rd up/down chord sequence and the method of its textural delivery, i.e. plenty of brass supported by strings and woodwind. Silvestri's film music frequently displays a refreshing antithesis towards the standard, heavily polished, luscious Hollywood sound. His use of brass and percussion in particular is prominent in most of his action films, offering a vivid organic ruggedness. Also Silvestri's use of rhythm is effective in most of his actions films too, and this is particularly effective in the aggressive piano/synth motif from bar eighteen, which plays in several scenes to heighten tension.

The last quaver triplet in the second group of three in bars eighteen, twenty and twenty-two, is effectively anticipating the second half of the bar, which adds to the feeling of urgency. The first six-quaver phrase appears on beat one of bar eighteen and the second six-figure quaver phrase begins on beat 4 of the same bar, which means that the phrase has an anticipatory feel because it 'crosses the bar'. This also adds to the urgency. What gives it an unmistakable harmonic sense is the Phrygian flavour of the line (E, E, E, G, F, E). The same quaver triplet cue continues underneath the main theme on brass, which hits the flattened 5th regularly, adding more harmonic colour to the theme.

Fig.5 *Audio – Predator Main title 01.31*

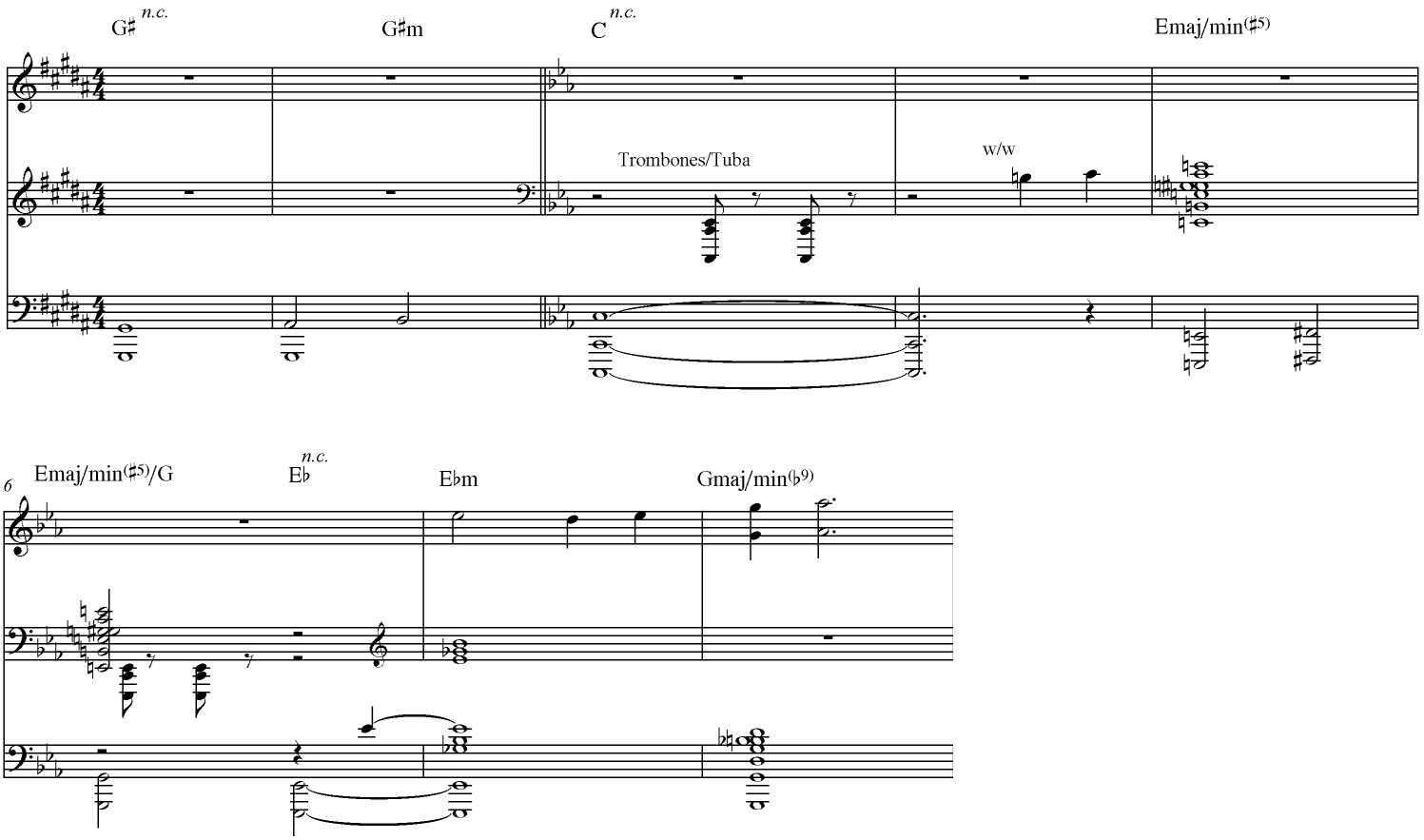
WRONG TURN *(Elia Cmiral)*

The transcription below (fig.6) from the introduction theme to the movie *Wrong Turn*, by Elia Cmiral, is heavily portentous, evoking feelings of danger and apprehension. But first we look at how the composer uses low brass 'shock chords' (bars three-six), something which has become almost a staple diet of modern horror music. The chords are so quick, loud and densely voiced that the almost violent, 'rasp-like' result is more of an effect than a sound. Another thing the composer does to perfectly evoke real apprehension is to offer enormous dissonance in the mid brass/woodwind, as displayed in bar five; one of the few times when we ever hear a major/minor chord.

(#5)

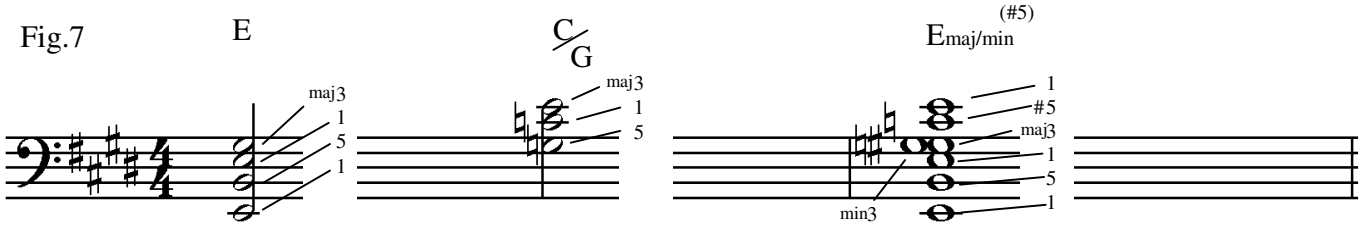
The Emaj/min is particularly effective. Normally, even in horror music or when we're trying to create dissonance, the minor/major 3rd clash within one chord is harmonically just too much, straying well beyond 'exciting dissonance' into the realms of 'art'. What makes this work is that the composer has built the chord (middle stave, bar five, fig.6 from the bottom up) on a root-5th-octave-maj3rd (E, B E and G#) which offer a strong, rich bed of consonance onto which the severe tension of the added min 3rd (sitting right next to the maj3rd) will immerse itself. The direct clash between the G natural and G# (min 3rd and maj 3rd) cannot be avoided but it can and is slightly mitigated by placing the C natural (#5) and E note over the clash. This works almost a harmonic diversionary tactic, delivering an inverted chord of C (G, C and E) at the top of the chord.

Fig.6 *Audio – 'Dark Forest', from 'Wrong Turn' (Elia Cmiral) Movie 00.00.24*



Bar five of fig.6 has been recreated in fig.7 to show display in more detail its harmonic components.

Fig.7



Chords of E and C fuse to create the chord in bar three (fig.7)

A NIGHTMARE ON ELM STREET *(Charles Bernstein)*

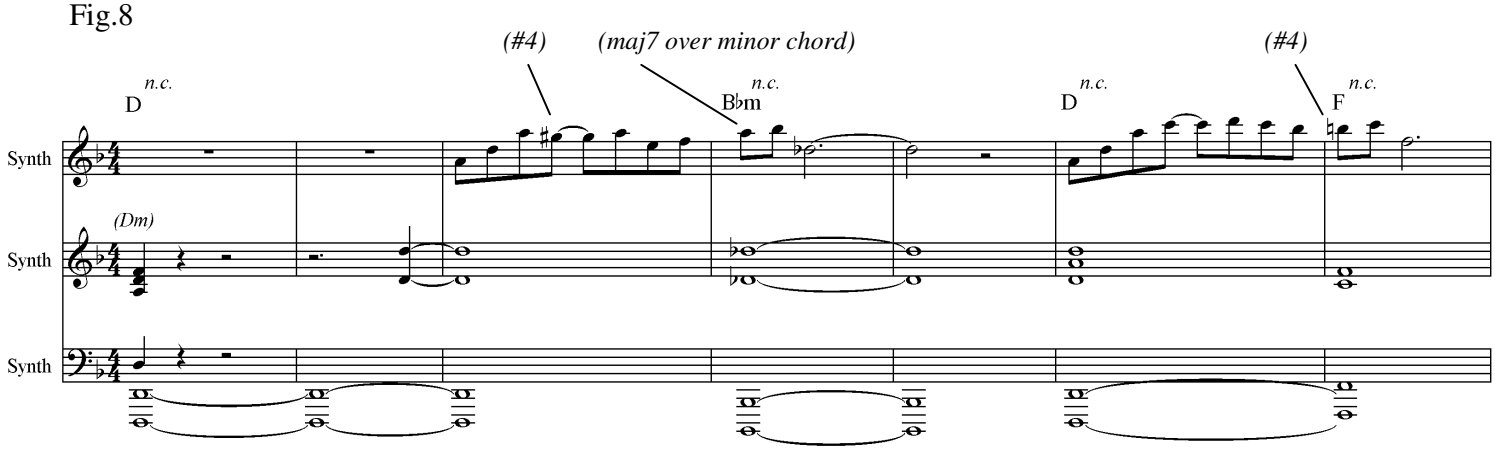
Much has been written about the social commentary and imagery present in the movie *A Nightmare on Elm Street*. Freddy Kruger attacks teenagers; his actions have been interpreted as symbolic of the traumatic experiences of adolescence and the isolation and loneliness it often encompasses. Violence and sexuality are alluded to in the movie too: Tina's death visually evokes a rape and Kruger's glove between Nancy's legs in the bath also represents a powerful and disturbing image. What has perhaps not been subject to the same kind of scrutiny and analysis is the music, in particular Charles Bernstein's powerful motif which runs through the movie. The motif is particularly adept at conjuring up feelings of isolation; of fear and trepidation.

Like *Predator* and countless other movies, *Nightmare on Elm Street* features a motif whose success is down to harmonic devices; firstly the idea of moving from one key centre to another in a rapid, abrupt manner (similar to *Predator)* without the usual polite chordal maneuvers; secondly the use of the #4 in creating an 'out of this world' feeling and thirdly the use of the maj7th extension over a minor chord. The actual chord changes in Bernstein's piece are slightly different from *Predator*, which were a min3rd apart. This time we have minor chords which are a *maj*3rd apart. But this move still delivers two chords which are outside each other's key centre, which helps deliver a feeling of detachment and apprehension.

Music by suggestion, not statement:

The D (nc) chord at the outset has no minor or major3rd. We hear it as a minor the first time largely due to the split-second brief minor synth statement but also because of the visual context of the film. A film is part of the music you write for it. In the same way that music offers context to a film, so too the film delivers the context in which the music is heard. If we were to hear D octaves accompanied by rapturous scenes of elation, pomp, ceremony or grandeur, we may hear the D in context of a D major chord. If we hear D octaves in context of *Nightmare on Elm Street*, we are drawn to a minor conclusion. Even if we don't see Freddie Kruger; if we simply see an introductory credit roll, the narrative suggestion of the movie leaks into our perception of the music itself. The #4 (G#) is the longest note of bar three where the theme begins; its communicative powers are thus offered the chance to permeate the piece. The #4 appears again in bar seven as a B natural over the F chord. Finally, the addition of the maj7 (A) over the Bbm chord in bar four is extremely effective in skewing the harmonic flavour of the melody.

Fig.8

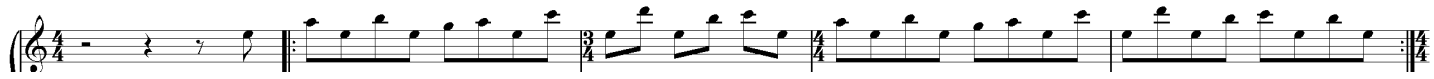


THE EXORCIST *(Tubular Bells - Mike Oldfield)*

The music chosen by director William Freidkin for *The Exorcist*, having dismissed the original Lalo Shiffrin score as "fucking Mexican marimba music", was eclectic and diverse. Leaving aside the director's absurd and hysterical treatment of Shiffrin, his eventual collection of music including elements of Krzystof Penderecki, Anton Webern and George Crumb and represented a veritable collection of the 20th century's most vivid, abstract and insightful composers. However, it was Mike Oldfield's *Tubular Bells* which captured the imagination of much of the audience and became known as by many as 'the theme from the Exorcist'. The context of how Oldfield's music is used inevitably forms part of our perception of the music. In *The Exorcist* actress Chris MacNeal notices dramatic changes in the behavior of her 12-year-old daughter Regan, who eventually becomes 'possessed' and is exorcised in the climactic end to the film. The film also features the storyline of a young priest who begins to doubt his faith while dealing with the sickness of his dying mother. *Tubular Bells* by Mike Oldfield comes in 00.16.30 into the film as we see an apparently carefree and unworried Chris MacNeal walking back to her house through the leafy autumn streets of Georgetown. Beautifully shot, the music counters the scene by offering a strangely portentous air. The music is not classic horror by any stretch of the imagination and its main benefit to the scene is in being both simultaneously unsettling *and* hypnotic. The music describes multitude of emotions, and this - combined with our knowledge of what the film is about and what is going to happen - creates the perfect context. This is yet another example of how music gels not just with the picture or the narrative, but with *what we know* as viewers. It is this relationship, this bond, which for the most part contextualizes the scene and determines to what degree the music works. In order to examine how and why such a simple tune became so iconic both as music in its own right (before its inclusion in the film) and as film music, we need to look at how it works and why it is regarded by many as hypnotic, absorbing and entrancing.

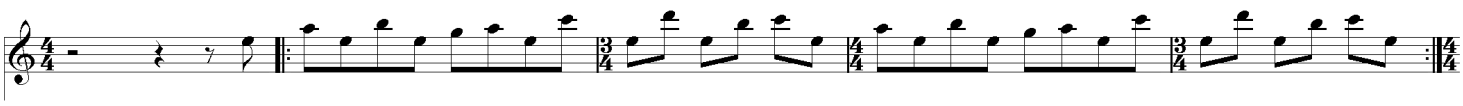
Fig.9 *Audio – Tubular Bells Movie 00.12.32*

Piano / synth / tuned percussion



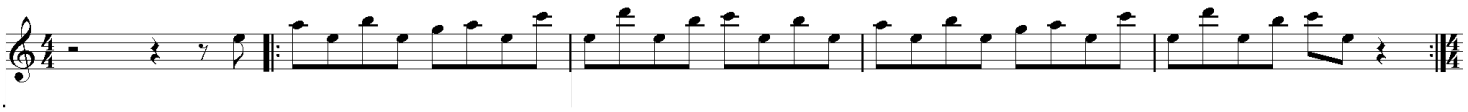
In many ways to understand what *Tubular Bells* is we have to understand what it *isn't.* By looking at what 'might have been' we begin to isolate and understand the specific reasons it communicates so vividly and so quickly. The version below (fig.10) features a repeated pattern of one bar of 4/4 and one of 3/4 bars repeated (rather than the correct version in fig.9 which contains one bar of 4/4, one of 3/4 followed by two 4/4 bars). The incorrect version below in fig.10 is actually musically more coherent because it has a structure which is fairly quickly understandable.

Fig.10



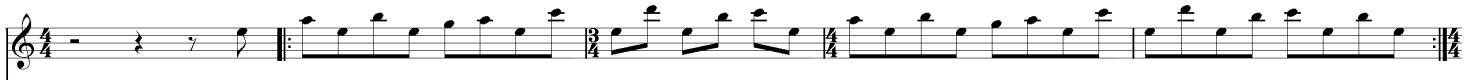
A straightforward 4/4 version is instantly forgettable; too monotonous (below, fig.11).

Fig.11



The one below (fig.12, the proper version) presses the right buttons. Why? How? What are the right buttons? One of the secrets of the success of *Tubular Bells* lies in the rhythm of the melody, which, although unsettling and 'feeling' repetitive, is *interrupted*, never 'settling'. A cycle of 4/4, 3/4 and 2x4/4 never seems to resolve or reconcile.

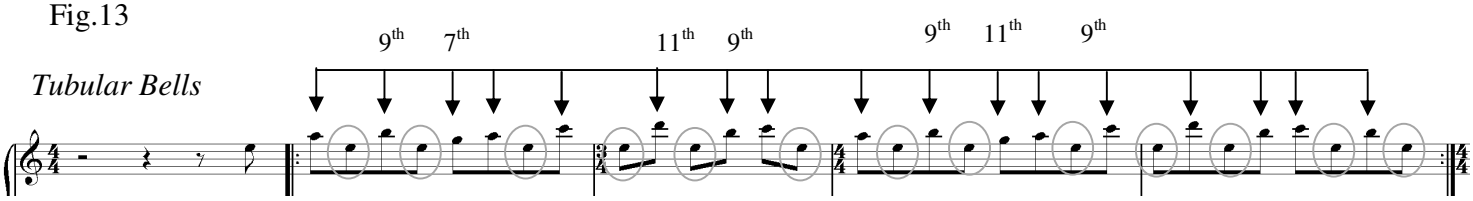
Fig.12



By distilling the salient melodic points (highlighted by arrows, fig.13) and comparing them to 'the other notes' (the offbeat quaver E notes) we can see that it possesses the same elements which can make Baroque both simultaneously energizing & dramatic *and* mesmerizing & hypnotic.

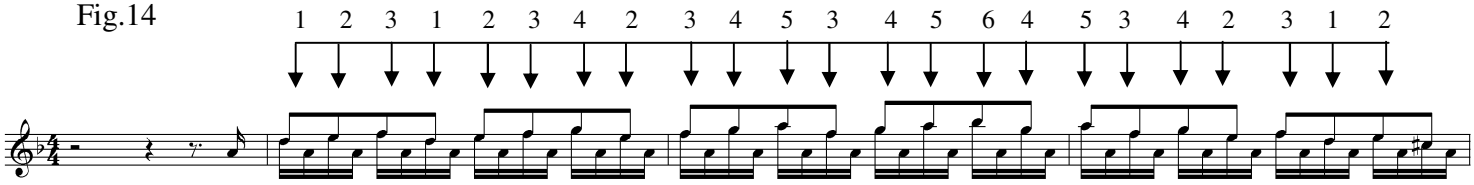
Fig.13

Tubular Bells



Bach's Toccata & Fugue

Fig.14



By turning to the harmony of the line we uncover other reasons for its hypnotic entrancing qualities. Although the piece is clearly in Am, any harmonic accompaniment exists in the head of the listener and is suggested, or alluded to, by the horizontal harmony generated by the melody line. Harmonically the piece is completely punctuated by the 5th interval (E) which itself doesn't suggest a major or minor accompaniment. Although the phrase has four minor 3rd intervals it also has five 9ths, two 7ths and two 11ths, so although we know it's in Am, any tedium is mitigated by the colour created by the 7ths, 9ths, 7ths and 11ths ( ).

The 9ths (B) 11ths (D) and 7ths (G) come at strategic points in context of the melodic arc and flow so they are more noticed.

Just like the rhythmic elements of the piece, the harmonies are repetitive but interrupted, never settling.

Fig.15

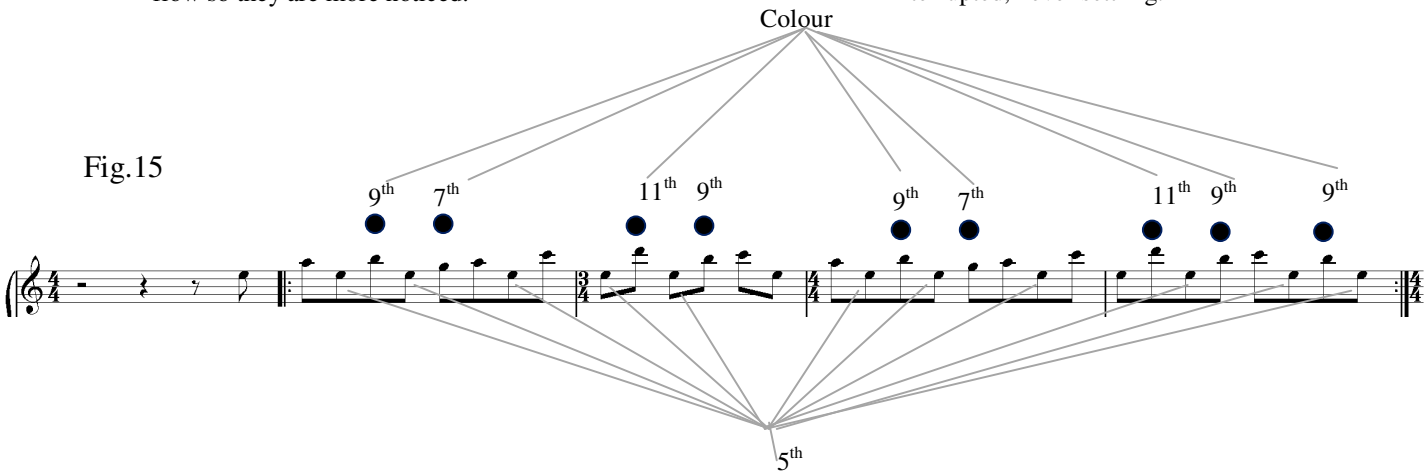
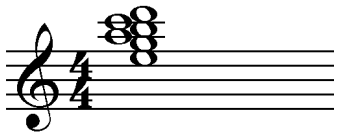


Fig.16



Finally, perhaps the most compelling reason for the piece's perceived sense of hypnotism is its sense of polyharmony. The chord to the left is a composite example featuring all the notes in the melody – kind of a vertical version of the melody.

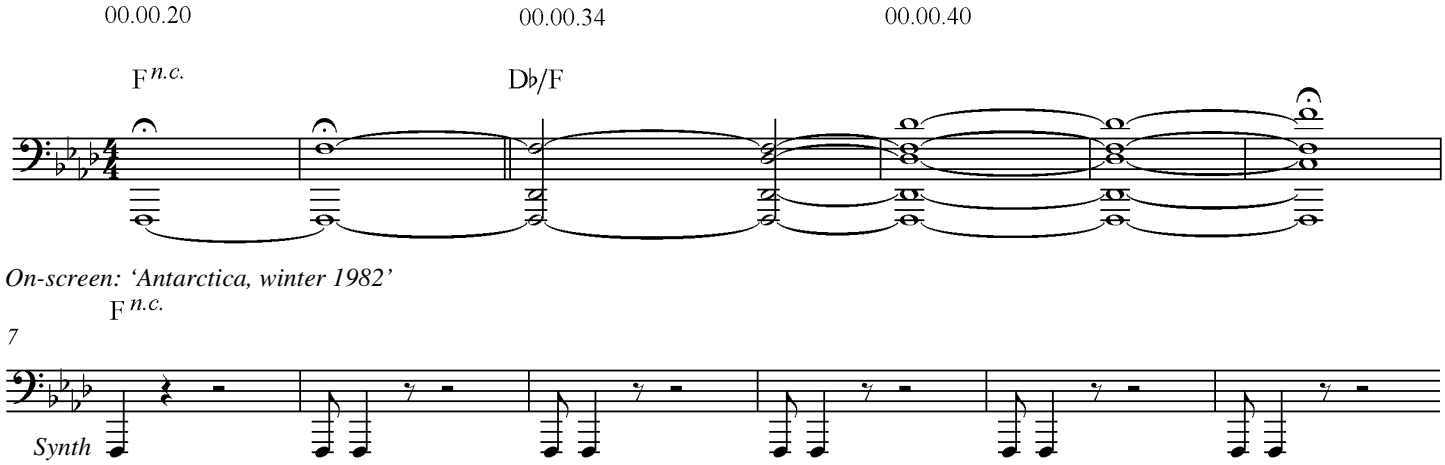
The way the notation is printed is quite helpful; we can see straight away the Em7 chord (E, G, B, D) running through the notes 'on the right' of the note grouping. If we look at the notes 'on the left' we see, from the top down, C and A. If we include the bottom two notes we have an Am7. The harmony suggested by this piece is therefore heavily and equally suggestive of two subtly different chords.

THE THING *(John Carpenter)*

The Thing was almost universally lambasted by critics when it appeared in 1982. *The New York Times* called it "a foolish, depressing, overproduced movie that mixes horror with science fiction to make something that is fun as neither". However, as with many films that critics 'pan', *The Thing* has gone on to gain a dedicated and widespread cult following, mostly thanks to home video. *The Thing* is a remake of the 1951 film *'The thing from another world'*. It tells the story of a scientific expedition at a remote research station in the Antarctic who are gradually all killed by an alien organism which infiltrates their bodies. Tension builds and paranoia sets in as the different characters begin to distrust each other. Much of the music to the movie *The Thing* is written by Ennio Morricone but the Main Title theme, used several times in the film but notably at the beginning, is the work of director John Carpenter himself. Like much of Carpenter's music for this film as well as others, his music is electronic, making great use of sonically disconcerting sound textures and unnerving dissonances.

The first section of music starts 20 seconds into the film and runs over the credit roll. Beginning with octaves on an analogue string synth sound, the piece develops harmonically.

Fig.17 *Audio - The Thing Main Titles 00.20 - Movie - 00.00.20*

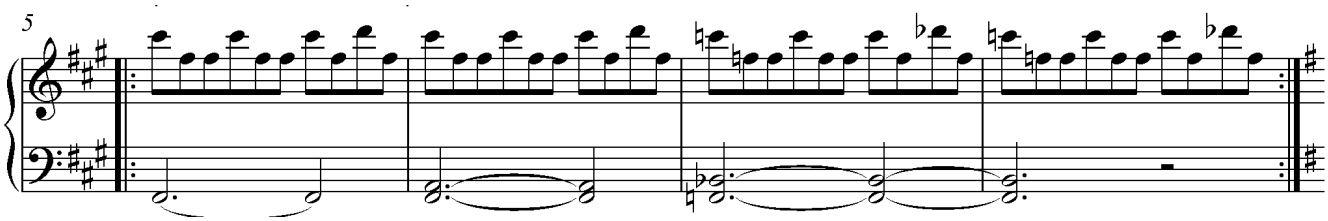


There are a few important characteristics of this piece which transport emotionally and create an unnerving backdrop for the movie before it has really begun. As with other themes we have analysed, it articulates a portentous, distressing and disquieting feeling.

We hear the first F unaccompanied; although the music has nothing with which to place the note harmonically, rhythmically or contextually, we automatically 'hear' it as a root, which is what we tend to presume in the absence of anything to guide us. In bar three, at 00.00.34 into the movie, the line breaks into harmony and the F is revealed to actually constitute a maj3rd of the Db chord. This seemingly innocuous fact is important because it causes mild surprise which makes us take notice and thus raises our emotional awareness.

The main harmonic event in this chord is the sonic tension and ambiguity created by the low and 'lumpy' harmony between the bottom F and the Db immediately above. Normally it would never be good to write such close harmonies at this low level in the sonic spectrum, such is the uncomfortable effect it creates. But Horror is a different situation and can sometimes require precisely the kind of uncomfortable listening environment offered by this type of scoring. Carpenter has done this before, notably in the music to *Halloween* (below), where in bar two we can see the same kind of low harmonies, largely to illicit the same effect and emotion in the listener.

Fig.18 *Audio – theme from Halloween (John Carpenter)*

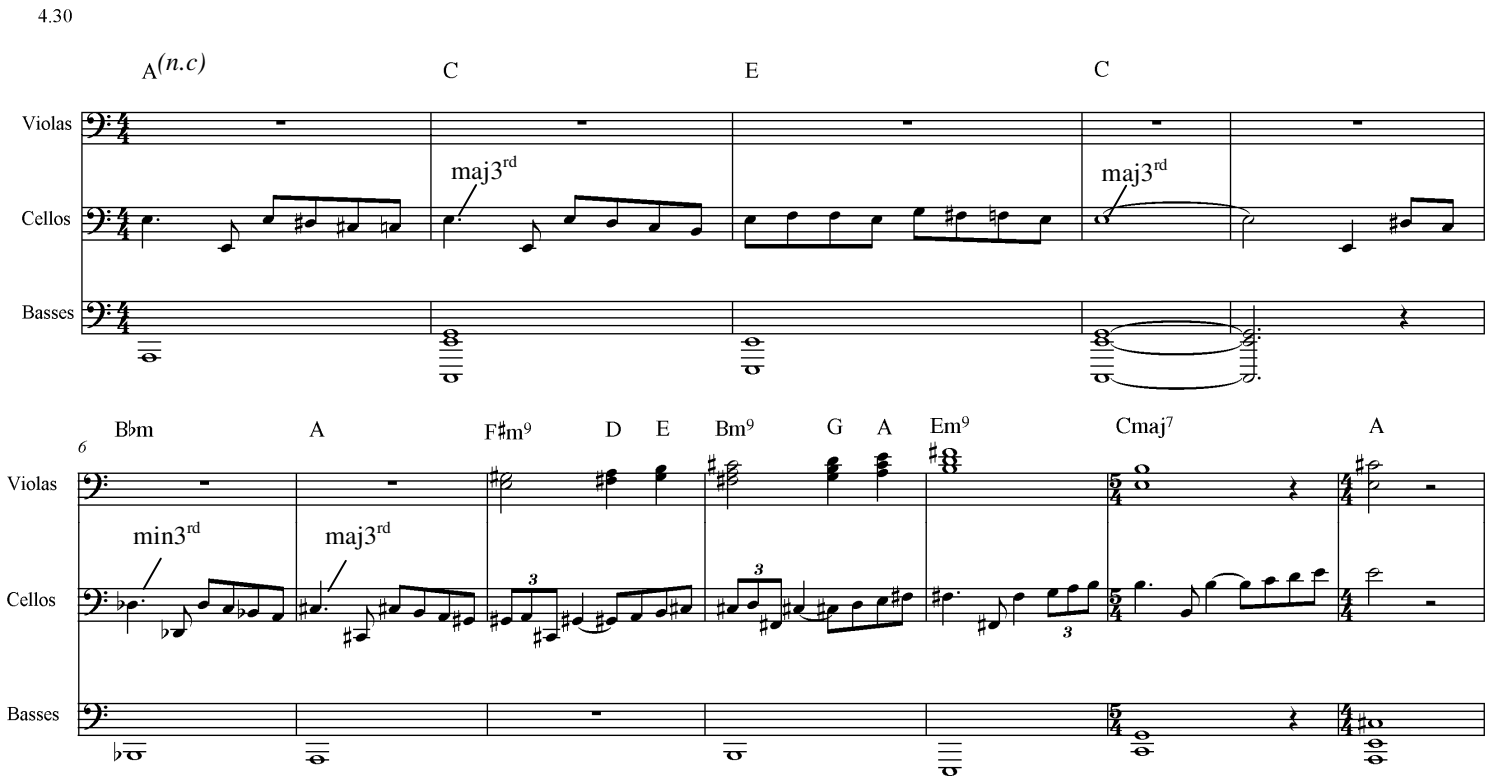


BRAM STOKER'S DRACULA *(Wojciech Kilar)*

Another score which makes great use of what can often be the exquisite sonic ambiguities created by low harmonies and voicing (but this time using luscious soft orchestral textures rather than the raw synth palates of John Carpenter) is Wolciech Kilar's score to 1992's Francis Ford Coppola's *Bram Stoker's Dracula.*

In many cases horror is a narrative device filmmakers use to explore a range of feelings and emotions. Sometimes horror is simply a filmic platform through which we explore society, humanity, love and many other important areas and aspects of life. Many horror films are essentially love stories played out through the prism and context of horror. Perhaps one of the best examples of this is the movie *Bram Stoker's Dracula* in which Count Dracula (Gary Oldman) is motivated more by romance than by terror, trying to avenge the death of his wife in the 15th century. He deliberately travels to London to meet Mina Harker, who is the living embodiment of his late wife. Large sections of the score are orchestrated in deliberately sonically ambiguous way with deep, rich harmonies, intervals and sound textures. The section which perhaps displays this in its most obvious way comes 4.30 into the track entitled 'end credits'. This reprises two of the main musical ideas which permeate the film's narrative structure.

Fig.19 *Audio – Dracula End Credits 04.30*



Kilar's use of low, dark and deep harmonies and orchestral textures create an almost dream-like ethereal ghostliness. Soft, atmospheric but also intense, the score weaves its way into the fabric of the movie. Although no chord accompanies bar one of the transcription in fig.19, the cello line suggests major (by virtue of the passing C#) and minor (by virtue of the C) as well as hitting the #4. The C# penetrates more deeply by virtue of representing the penetrative maj3rd. The fact that no full chords accompany the line exposes the melody, italicizes the notes and exaggerates the power of the intervals. Intervals in melodies are more acute and more obvious if they are virtually alone in describing and articulating the colour and character of the chord. Each one of the first four bars begins on the E note, which gives the line a level of consistency and structure.

In bars two and four of the transposition the basses and low cellos on the bottom stave are written deliberately 'low and lumpy' causing slight harmonic dissonance and sonic ambiguity. This is offset by the fact that the melodic line on cellos spends a disproportionate amount of time on the emotional, descriptive and penetrative maj3rd (compound).

The interval in bar six between the cello (Db) and the low basses on Bb is a compound minor 3rd. Because both notes are low, even with the big gap between them, the interval is rich and warm sounding. In bar six the first cello note is the Db (compound minor 3rd) and in bar seven the cello melody note begins on C# (the compound *major*3rd). The cello note remains the same but the interval – the meaning, the name, the interpretation and the context – changes because the accompanying basses drop from Bb to A. This is a particularly effective and colourful maneuver because, as we have seen on other occasions, it is the *meaning* which changes, not the sound, therefore it is our perception of something so subtle as the changing harmonic context which means everything.

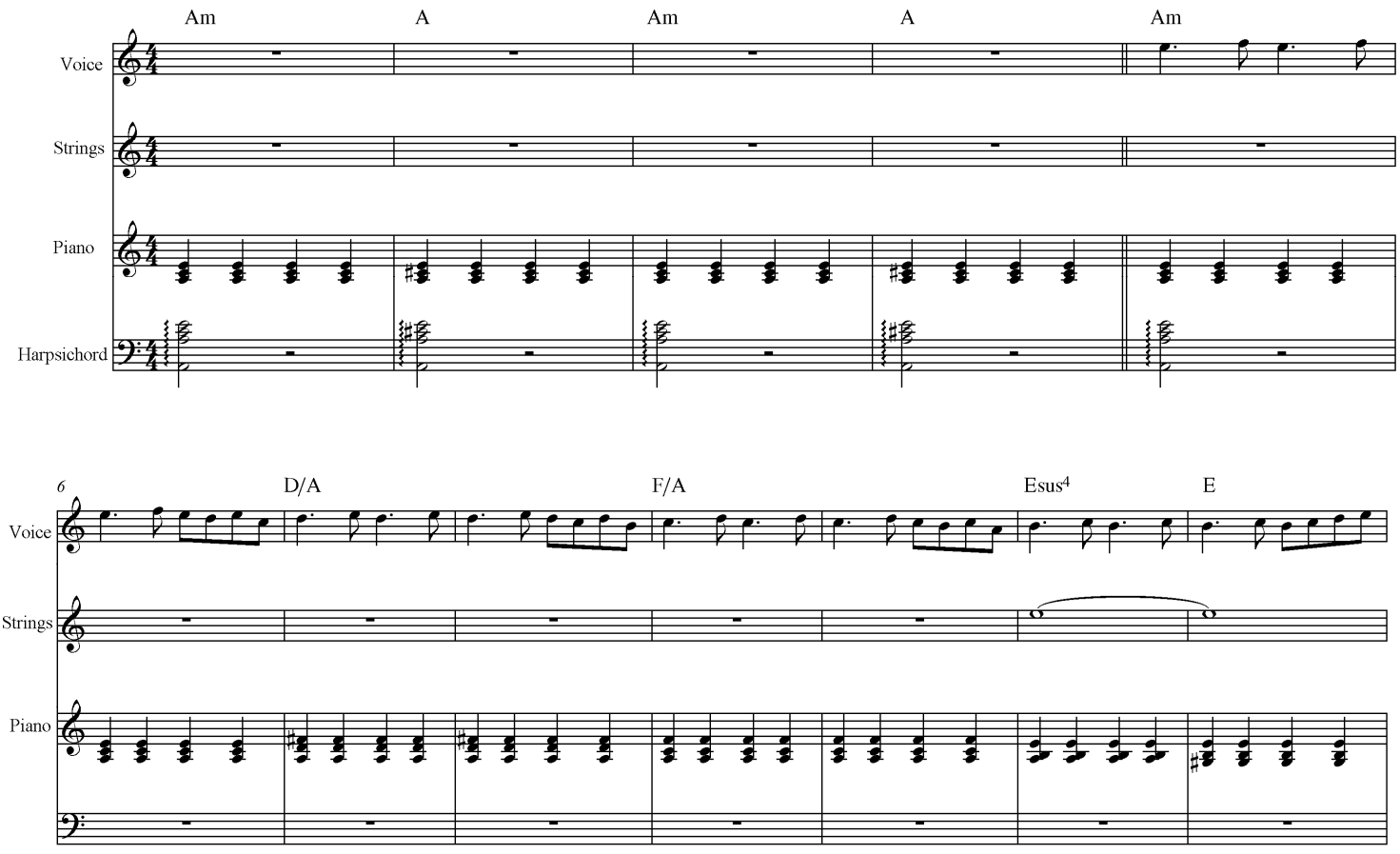
Another particularly engaging and communicative aspect is the how the cello line hits colourful intervals in beginning of bar eight and nine (the 9th). Although violas join in from bar eight representing harmony above the low cello, the cello continues to represent the melody, sounding unusually low, subdued and soothing.

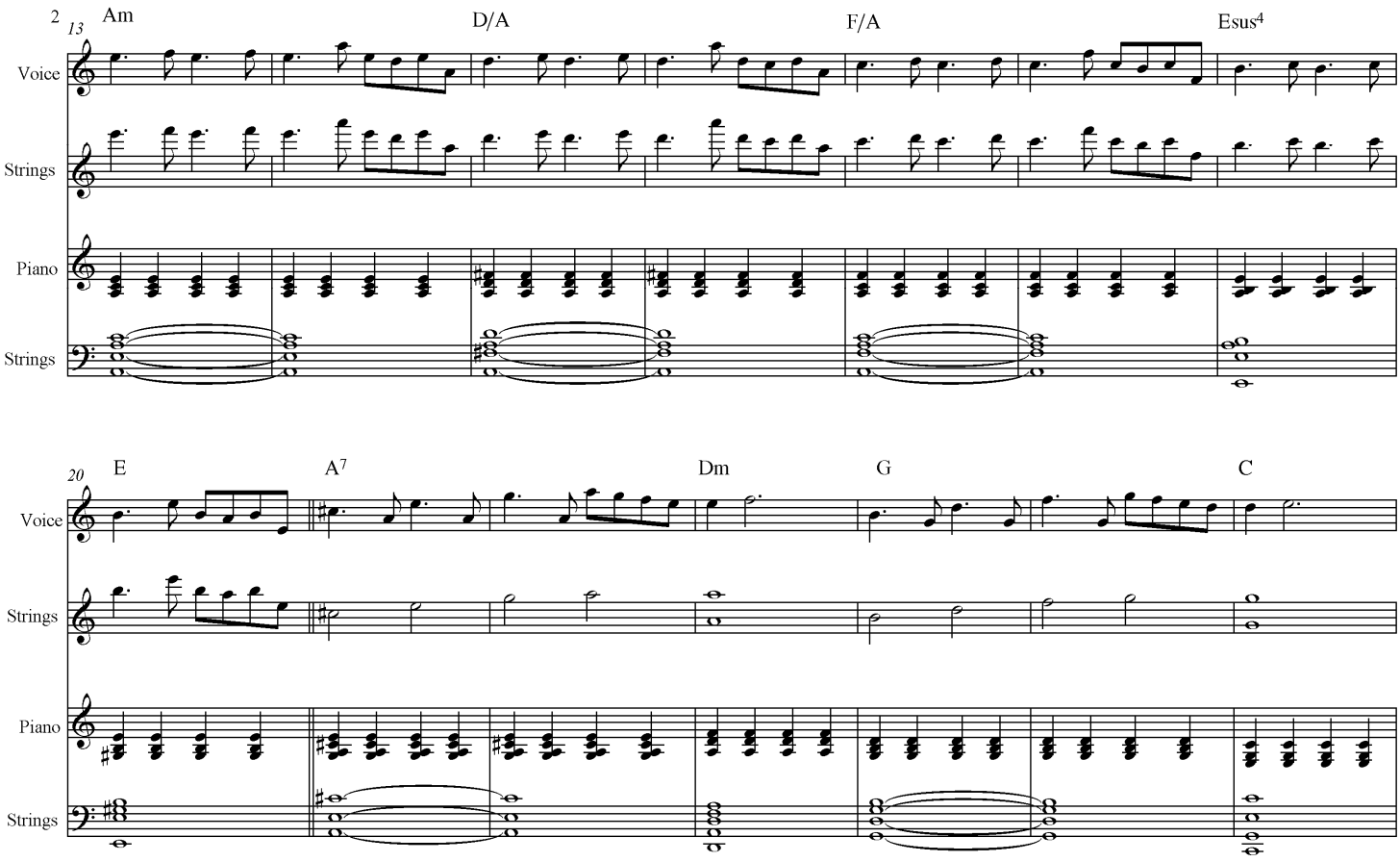
THE NINTH GATE *(Wojciech Kilar)*

The Ninth Gate is a 1999 film directed, produced, and co-written by Roman Polanski, about a rare book dealer, who, seeking the last two copies of a demon text, gets drawn into a supernatural conspiracy.

The human voice is perhaps the most poignant and emotional instrument. The voice is often used in horror films to underscore sad, romantic or tragic elements of a story; often the 'wordless' singing voice is employed in films. Freed of any literary meaning, the unique texture of the voice communicates better than most sounds. Freed of words, the voice's unique qualities function purely as an instrument. Kilar's main theme ('Vocalise', based on a style of 'wordless song' which dates back to the mid-18th century) features a deliberately strained vocal and underpins the tragic and romantic undercurrents of the film.

Fig.20 *Vocalise Theme from 'The Ninth Gate' 00.00*





The inverted piano chords in bars seven/eight and nine/ten helps the chords gel together by accenting the common 'A' bass note. Also the piece makes great use of a harmonic device we have looked at many times - the sci-fi chord change – which this time is from the Am (bar five) to the D/A (bar seven). The chord change, which involves a slightly out-of-key-centre manoeuvre, has a refreshing and uplifting air and is particularly good at articulating wonderment and surprise.
Expect the unexpected

Another extremely effective section is where the piece hits the A7 chord; the success of this change involves a characteristic we have looked at before – namely the way composers lift a piece and engage the listener by virtue of using a chord we didn't expect. To a degree all composers do this; the level to which their music engages us is often tied to the way they subtly confound our expectations. What we 'expect' in bar twenty-one might be a return to the Am chord, but what we *get* is the A chord plus the added tension of the 7th which makes it 'cry out' for a resolution to the Dm, which comes on bar twenty-three. Another extra piece of structural tension is achieved in the same way by tweaking what we would expect: from bar twenty-one, having been given two bars of A7 we would 'expect' two bars of Dm to complete the archetypal four bar phrase. But the phrase evolves to the next section (G chord to C chord) what feels like 'a bar early'. This mild, almost imperceptible factor helps because it ensures the piece does not ponder or resort wholly to type. Because the transition from Dm to the G chord arrives 'early' and the tiniest fraction out of context, it is perhaps more vivid and intense.

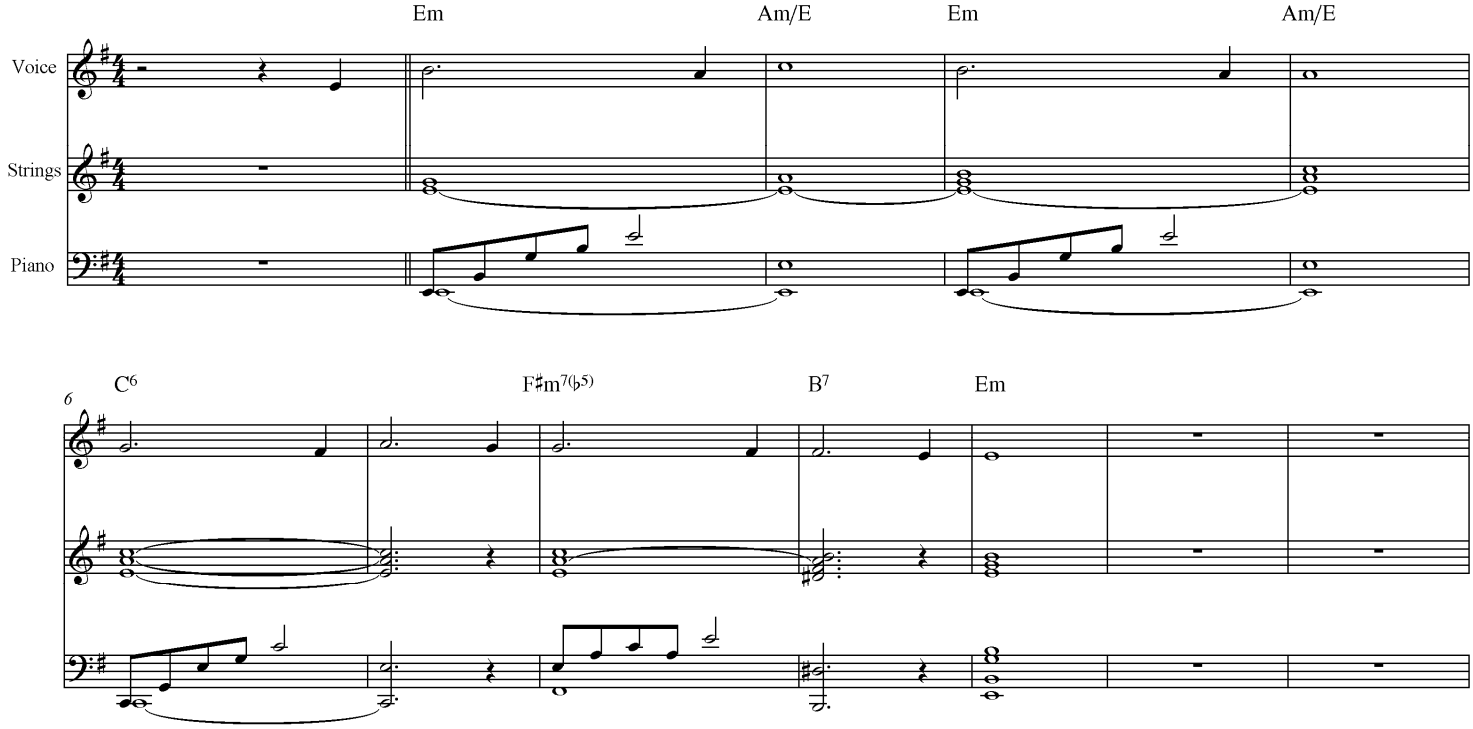
SCREAM *(Marco Beltrami)*

A killer known as 'ghost face' kills teenagers in Woodsboro. As the body count begins rising some of the teenage characters begin discussing the 'rules' of horror films. Similar to films such as *An American Werewolf in London*, *Scream* is delivered firmly tongue-in-cheek. Originally entitled *Scary Movie*, *Scream*'s release was credited with reigniting the popularity of the horror genre, which had been considered to be in decline with many films released straight to DVD. To many, horror films, spoiled by the glut of sequels and rip-offs, had lost their ability to scare. The strength of *Scream* was that it mocked and embraced the conventions of horror which had become considered cliché,

The *Scream* score was composed by then newcomer Marco Beltrami. This was the first time he'd scored a feature film. Beltrami was recommended when the film makers let it be known they were looking for someone new. Craven wanted the music to intentionally raise tension during scenes where audience expectations were already raised by their experience of previous horror films. When scoring a theme for the character of Dewey, Beltrami approached him as a 'quirky' sheriff, using a Wild-West Morricone-style guitar accompaniment. The main character, Sidney Prescott, has her own theme, titled 'Sidney's Lament', featuring a wordless female voice, referencing the heartbreak and sorrow of her situation. Beltrami states that the voice 'speaks' for the character, 'lamenting' the loss of her mother (who, in the story, died before the film's events).

Christian Clemmensen of *Filmtracks* called the haunting vocals of the track the 'voice of the franchise'. The theme itself is reprised in *Scream 2*, where it appears as *'It's Over, Sid'*.

Fig.21 *Audio – 'It's over, Sid'*



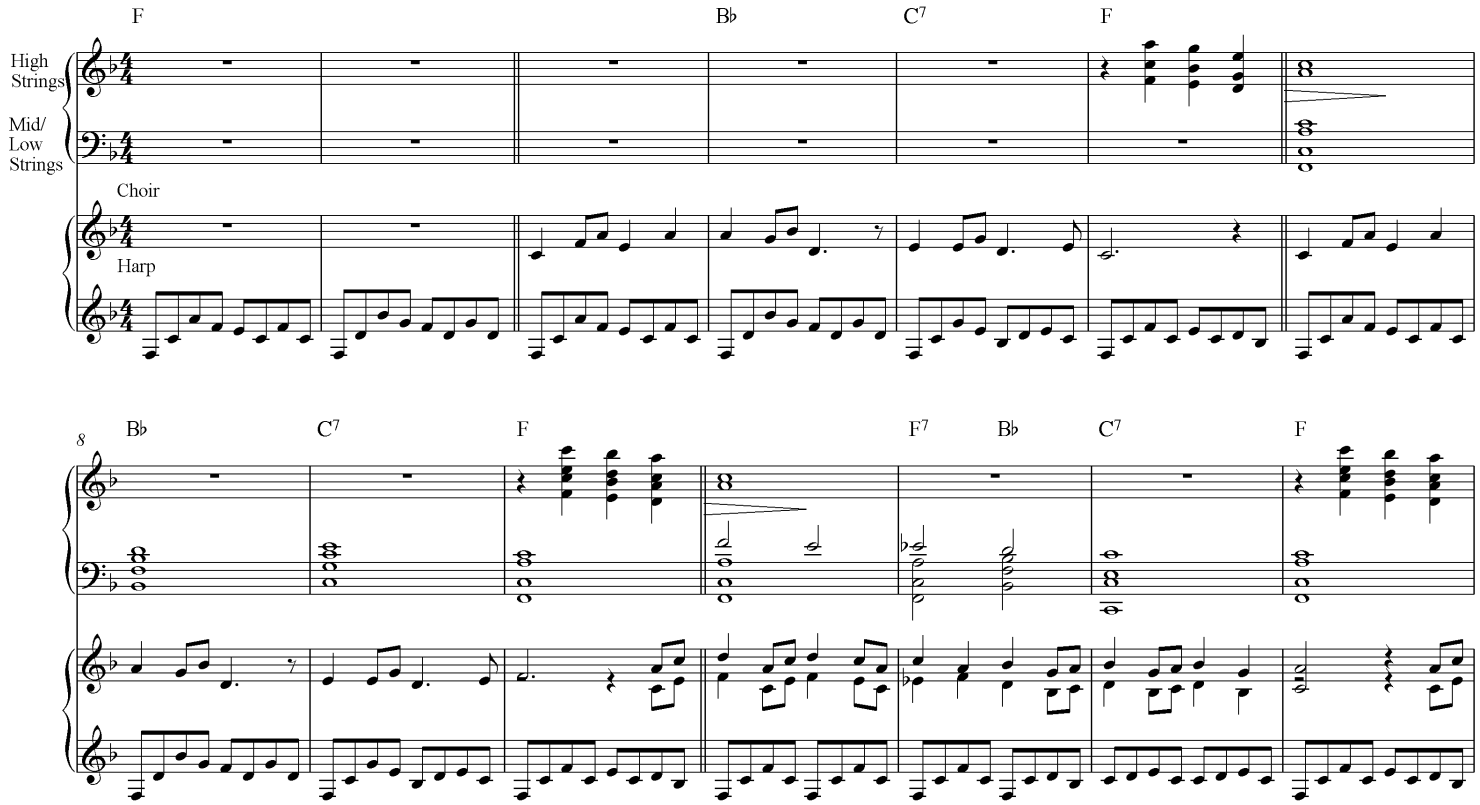
The wordless vocal once again delivers the message brilliantly well, as does the melody and chords. The effortless transition from Em to Am is aided greatly by the E pedal note which inverts the Am chord and ties the two chords together well. The harmonic sequence is traditional and the last four chords have more than a whiff of Baroque. What causes extra tension is the G melody note over the F#m(b5) chord.

The G note effectively functions as a flat 9. Flat 9's over minor chords can create real tension and drama because the flat 9 clashes with the root note. In the Beltrami piece the tension isn't felt in the kind of obvious way it would normally be because of the soft, ghost-like textures and delivery.

POLTERGEIST *(Jerry Goldsmith)*

Poltergeist is a film about a young family who are visited by ghosts in their home. Inevitably the ghosts turn nasty and start to terrorize the family before kidnapping the youngest daughter, Carol Anne. The music for *Poltergeist* was written by Jerry Goldsmith. *Carol Anne's Theme* is designed to represent the blissful suburban life and the young female protagonist. The score succeeded in earning Goldsmith an Oscar nomination for Best Original Score, though he lost to fellow composer John Williams for *E.T. the Extra-Terrestrial*.Once again the enduring musical memory from the film is the soft, wordless voice, this time delivered by a children's choir. The theme was used at the beginning of the film and at the end. Both versions featured a subtly different orchestration to the audio track 'Carole Anne's Theme'. In the following example we'll see how effective orchestration and counterpoint can be in delivering colour and variation.

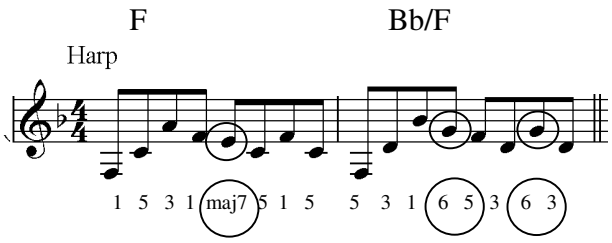
Fig.22 *Audio - 'Carole Anne's Theme'. Movie 00.4.29 and 01.46.00.21*



The perceived simplicity of the melody in this piece belies the flavour of the harmony and orchestration employed to support it. If we simply take the melody and chords and play them on a piano, for example, we realise to what degree the internal workings of the orchestration were responsible for the emotion and beauty of the piece. But it's not just the textures that create the warmth and emotion; it's the distinct flavour of the harmony.

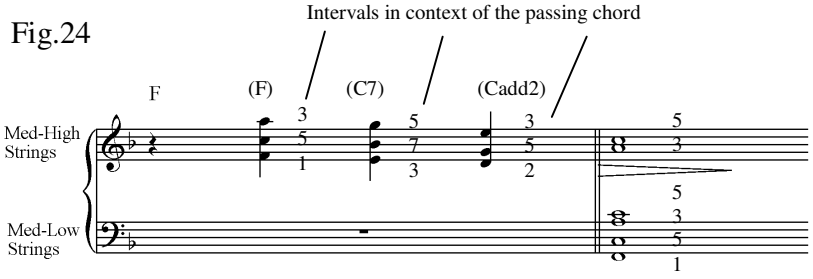
Instruments rarely purely follow the chords *exactly;* there are usually small brushstrokes of colour which help the instruments natural textures penetrate. By this I mean that there is sometimes little point in scoring a string section if all they're going to do is literally copy the chord; whilst the added textures will be effective, needless duplication is rarely the motivation behind the use of strings; colour can sometimes come from extension notes which add a specific flavour to a chord. An instrument's potential to transmit emotion is only as good as the orchestration which delivers it. The initial harp line (below, fig.23) is effective not just because of its sound, but because of the intervals it hits, in particular the colourful ones (maj 7 and 6th).

Fig.23



Sometimes one of the most effective methods of string writing is to use subtle secondary chords over what appears to be a 'normal' chord. The notes from the 'secondary' chords are heard as extensions in context of the original chord but in reality sometimes an entirely different but related passing chord has been used. This brief polite tension serves to italicize the sound and allow the notes to penetrate. String chord writing doesn't always follow the basis of the chords exactly; it regularly features embellishments or even alternate chords which are too brief to be heard as 'clashes' but offer colour and mild, subtle tension. Usually the lower string voicings would state the basic chord with middle or top harmonies alternating between the chord and the colour of harmonic extensions, embellishments and even, briefly, alternate chords.

Fig.24

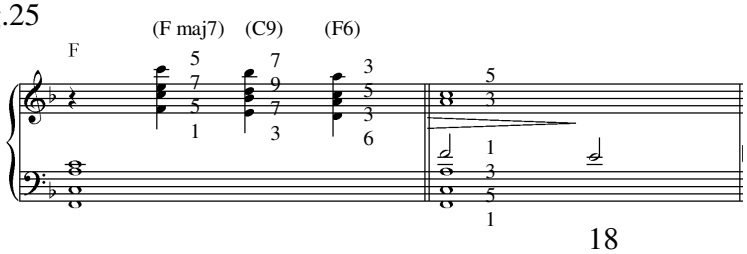


If we look at the first string entry (left) from bar six/seven of the original transcription, and listen to the cue, we can see and hear the types of brief colour which manage so successfully to penetrate and be heard over the chord of F.

In particular the voicing of the last crotchet of bar one (fig.24) is interesting. It features (from the top) the E (3rd of the passing C7 chord), the G (5th) and, most surprisingly, the D (2nd). This slightly odd voicing of a Cadd2, where the extension is at the foot of the voicing and the 3rd at the top, succeeds in italicizing the chord. The intervals which separate the notes (4th and 6th) ensure all three notes are heard.

The second entry, which comes in bar eight, features slightly fuller 4-part voicing.

Fig.25



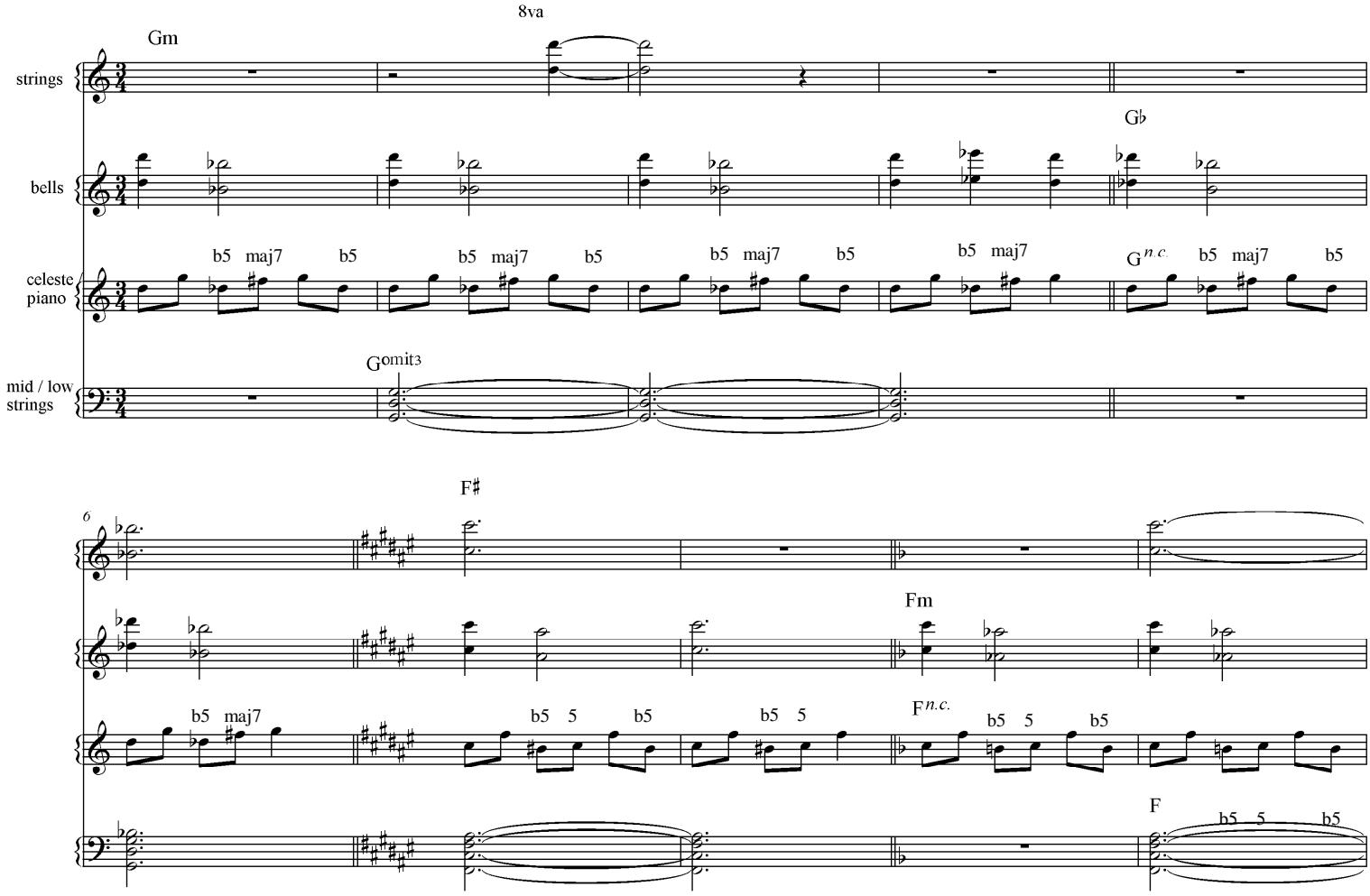
Another interesting thing to note about both of these entries is the overall (but not parallel) downward direction, or arc, of the lines which create a great sense of architecture, momentum and inevitability.

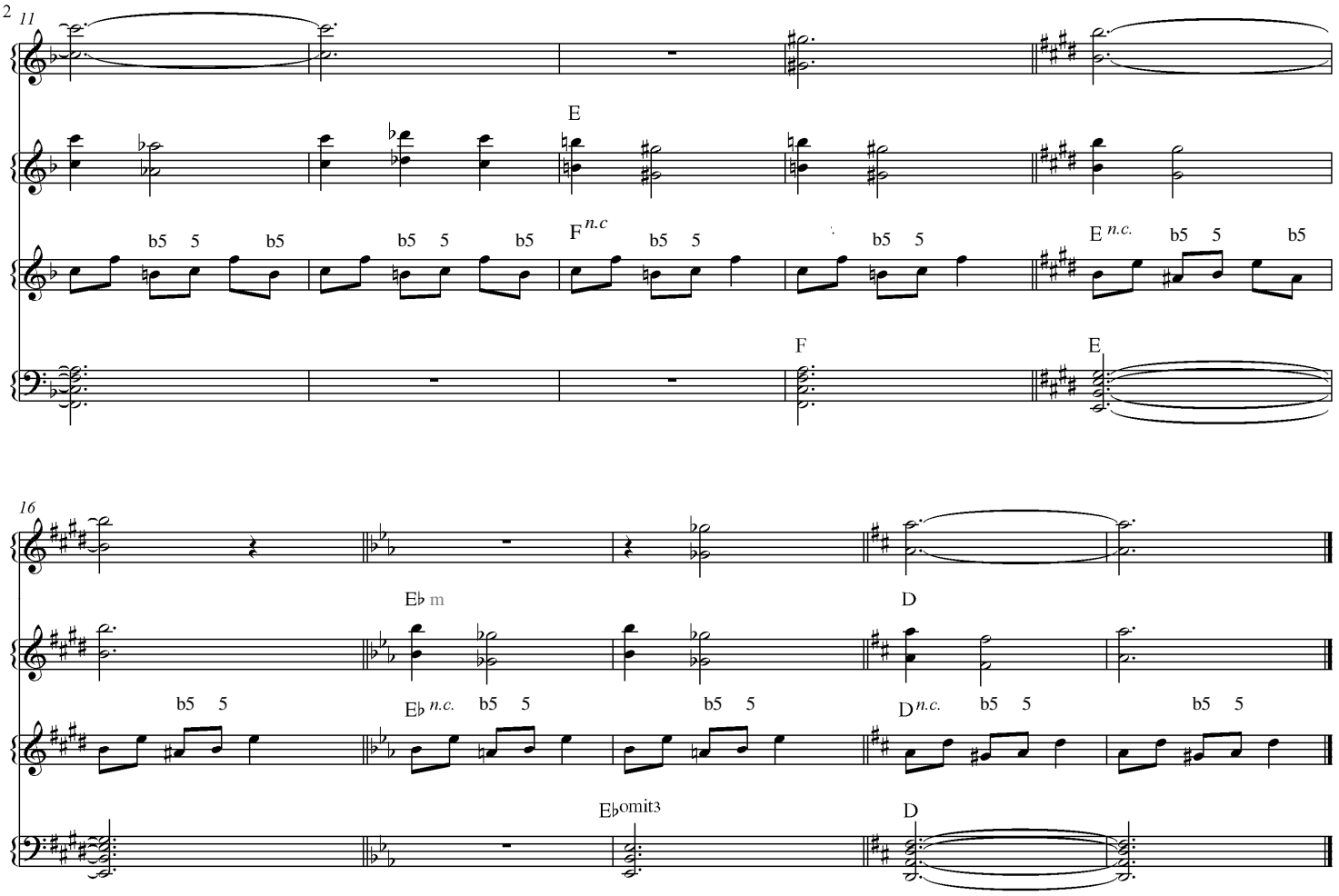
THE GRUDGE *(Christopher Young)*

In *The Grudge* an American Nurse moves to Tokyo and encounters a supernatural spirit which possesses its victims. A series of horrifying and mysterious deaths occur, with the spirit passing its curse onto each subsequent victim. The context of the film is that 'the grudge' describes a curse that is born when someone dies in the grip of a powerful rage or extreme sorrow. Christopher Young's vivid and colourful score makes use of an effective harmonic device used in some horror films – polyharmony.

In particular the intro music which plays over the introductory titles is extremely effective in setting the right tone both texturally and harmonically. Looking beyond the distinctive textures and at the quaver line in bars one-four we can see it makes consistent use of the flat5 and maj7 over the Gm. The low trombones play a root-5th chord devoid of the 3rd, which is stated only by the top string line, melodically. The flat 5 and maj7 are a consistent characteristic of the entire piece.

Fig.26 *Audio - Ju-On I - Movie 00.03.00*



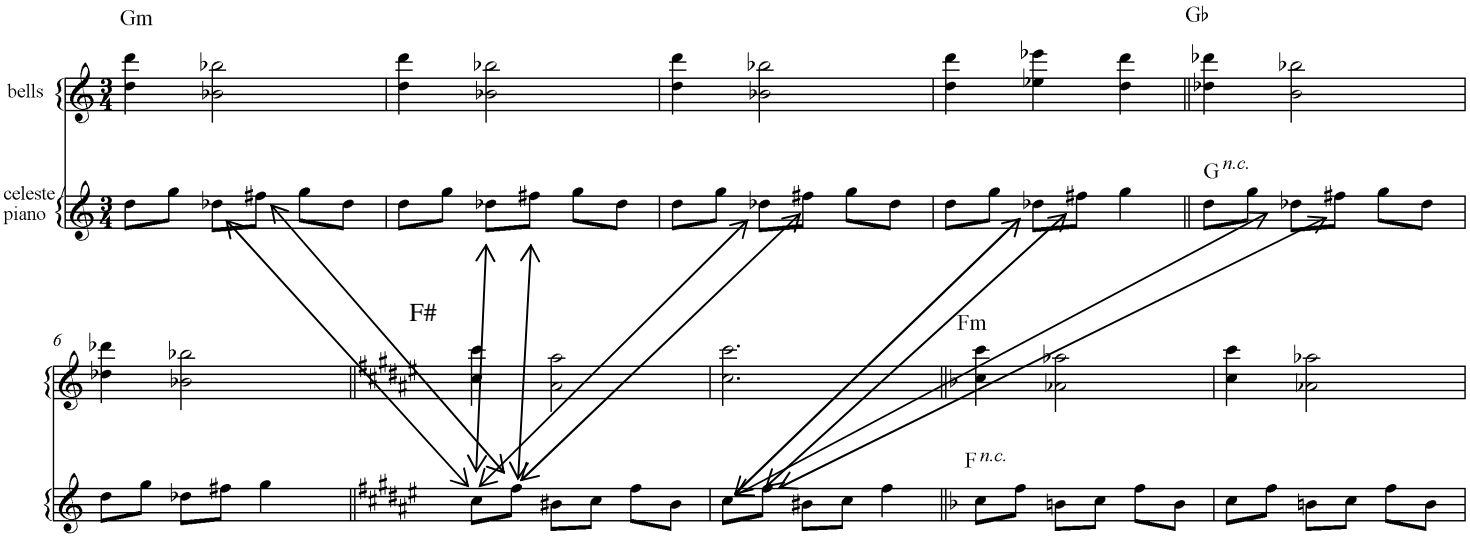


If we look at this piece through the prism of polytonality we see a slightly different perspective emerging. We see that what the b5 and maj7 intervals *actually* do is reference a different chord – the next one, in fact. The Gm chord lasts from bar one to six, being followed eventually by an F# chord. The b5 (Db) and maj7 (F#) of the Gm chord can also function as the 5th (C#) and root (F#) of the eventual F# chord. Thus the strangeness of the harmonies is because two different chords are being implied simultaneously.

Similarly if we look at the 'bell' line in bar five we see a Db (b5) and Bb (min 3rd); these same sounds become the 5th (C#) and maj 3rd (A#) of the F# chord in bar seven/eight. This isn't just polytonality; it's two sections of the same piece being implied at the same time. The composer alludes to the chord which follows; the notes which appear as flat 5s and maj7s can be viewed and heard as intervals from a subsequent chord, 'brought forward'. This isn't just two chords alluded to simultaneously – it's the chord from bar one-six and the chord from bar seven-eight being stated together to create a disturbing off-key skewed reality.

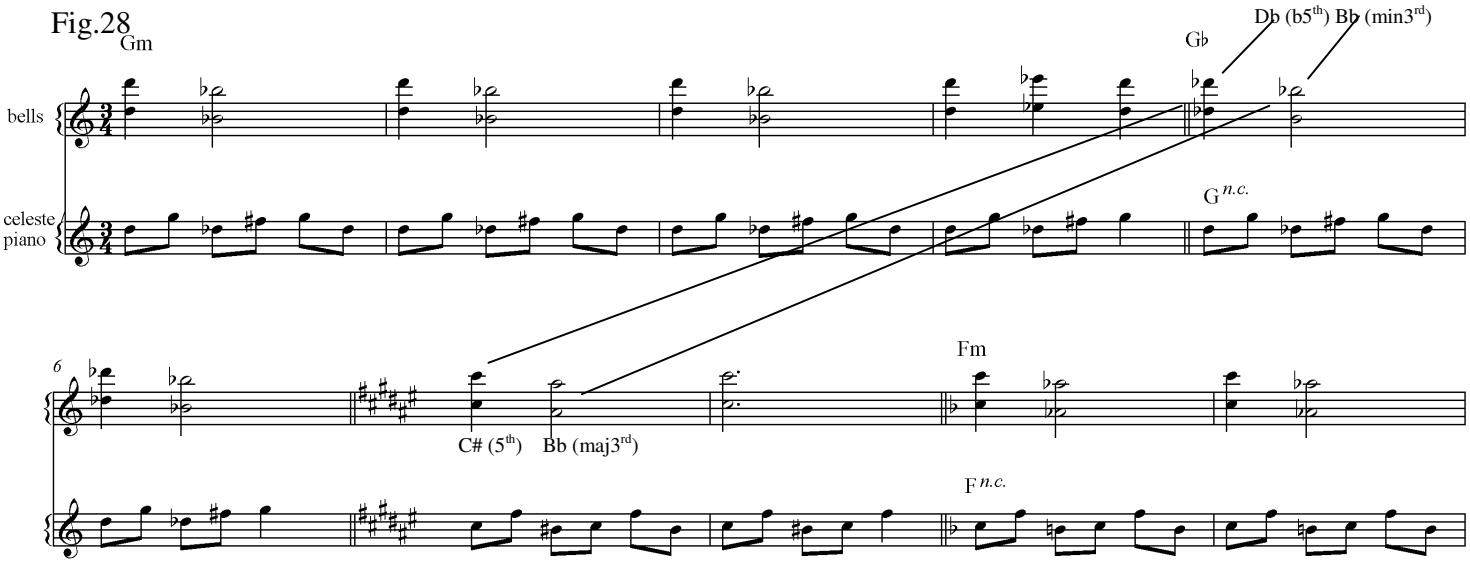
The following example is an abbreviated transcription showing only the piano line and 'bells' of bars six-ten. As we can see, with reference to the b5 and maj7 notes in bars one-four, these 'map across' perfectly to the new F# key in bar seven – thus it isn't the sound the notes in question *make* that changes, only what they represent.

Fig.27



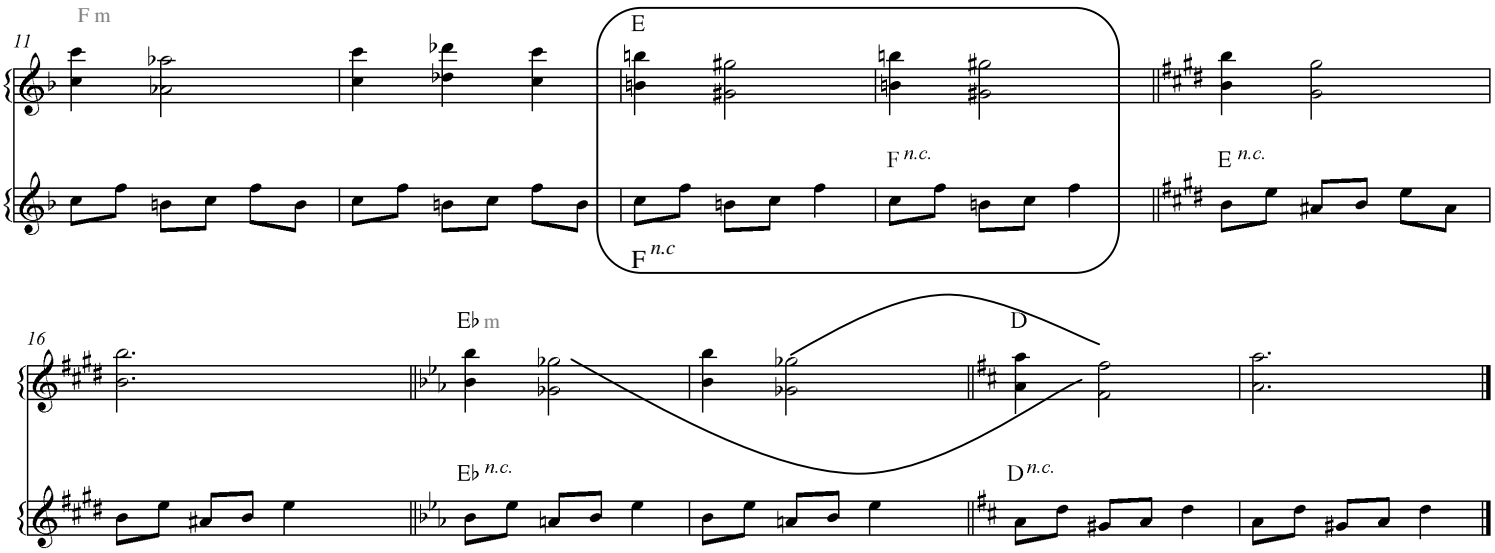
Looking again (fig.28) at the same abbreviated transcription (bars six-ten) we can see that the issue of two notes suggesting two different contexts is rife in this piece, which creates a permanently unsettling, disturbing and disconcerting feeling in listeners

Fig.28



Looking finally at the last ten bars of the transcription from bar eleven to twenty, we see other polytonal areas; in bar thirteen the bottom piano line is still in F whereas the top bell line is suggestive of an E chord. Similarly the Gb (min3rd) bell note in bar seventeen and eighteen 'maps across' to become the F# (maj3rd) of bar nineteen.

Fig.29

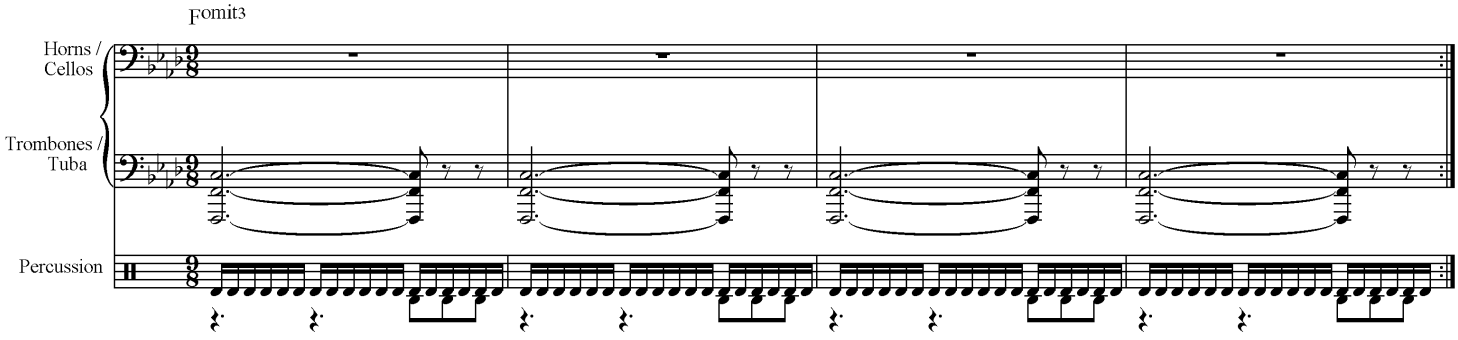


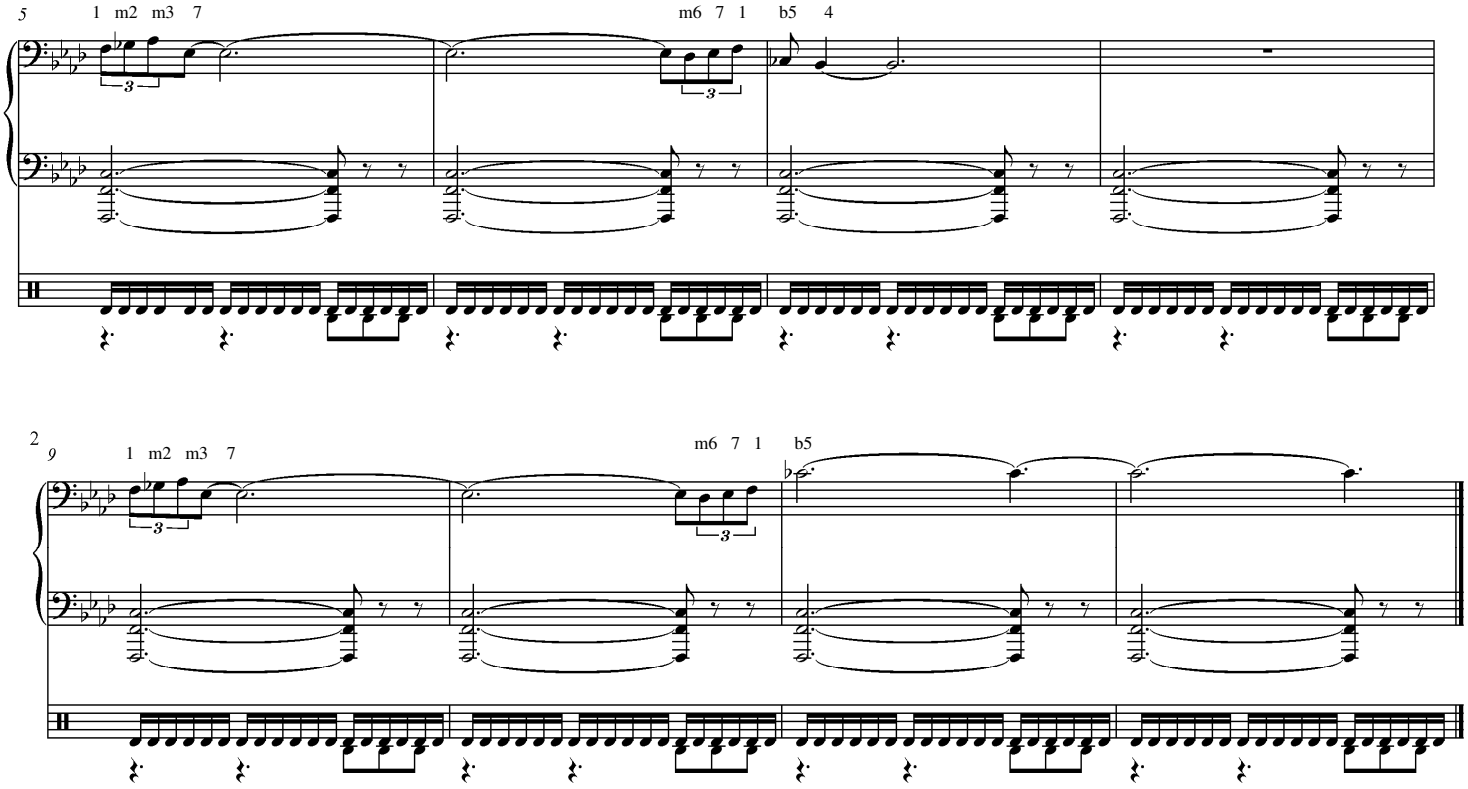
The real success of this kind of polytonality is not just that it skews our reality and challenges our assumptions, but that it italicizes the *context* of the note and elevates it to a higher value than the *sound* of the note. We are not challenged by the 'note' because in many cases the notes which affect us remain the same; it is what they represent which skews our reality.

Anaconda (Randy Edelman)

Now we come to another brooding theme not entirely dissimilar to the one which opened the chapter (*Final Destination*). The main theme to *Anaconda* doesn't necessarily sound the same as *Final Destination* but it does feature a similar compositional approach, one in which the main vehicle for the feeling of impending doom is the combination of cellos and horns playing an uncomfortable theme; one which doesn't sit right and sounds 'skewed'. The piece begins with a pulsating, captivating 9/8 percussive rhythm against which the raw unadorned palettes of low brass playing bare fifths and octaves are placed.

Fig.30 *Audio – Anaconda Main Title Theme 00.00*



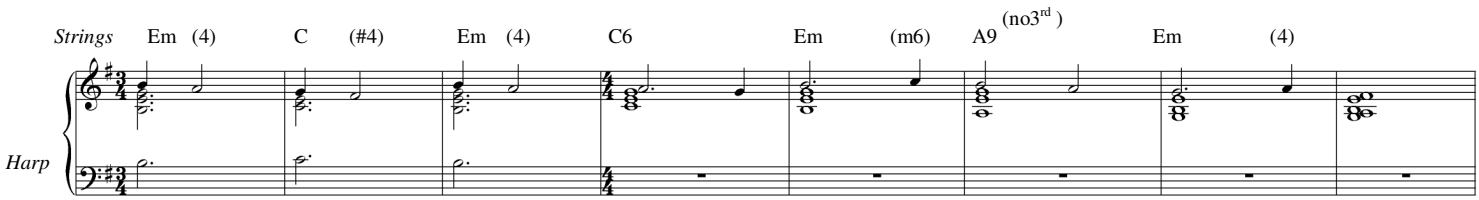


Bar five of the melody features an assortment of odd intervals, perhaps the most striking of which is the rhythmically unsettling and harmonically strange Gb (m2) and Eb (7) (over the suggestion of Fm), giving the line a Phrygian air. Bar seven, which contains the flat 5 leading to the 4th, isn't so much atonal; it simply uses odd intervals we don't expect and which 'stick out'. But even then there is a structure, a plan; the plan is to emphasize the 7th and 4th (neither of which are descriptive primary intervals) and to push a vaguely ethnic sounding Phrygian mode.

Silence of the Lambs (Howard Shore)

The following cue (entitled 'Quid Pro Quo') is from *Silence of the Lambs*, by Howard Shore. Slightly similar to *Final Destination* insofar as it possesses a kind of brooding, ominous and threatening anxiety, it creates this air not through obvious dissonance or the heavy brush strokes of instrumental tension, but by subtle and specific voicing and placement of extensions.

Fig.31 *Audio – Quid Pro Quo (from Silence of the Lambs)*



The 4th interval of the Em/B chord (bar one) is more acute and obvious because of the relationship and slight tension between *it* and the low inverted B (a 7th between the two) stated on strings and Harp. Thus a combination of the interval (4th) and the inverted chord is what creates mild tension. Bar two features a similar line, this time with the second note (F#) representing the #4. Another small and almost imperceptible tension is between the C melody note (bar four) and, again, the inverted B at the foot of the string voicing.

The Shining (Wendy Carlos)

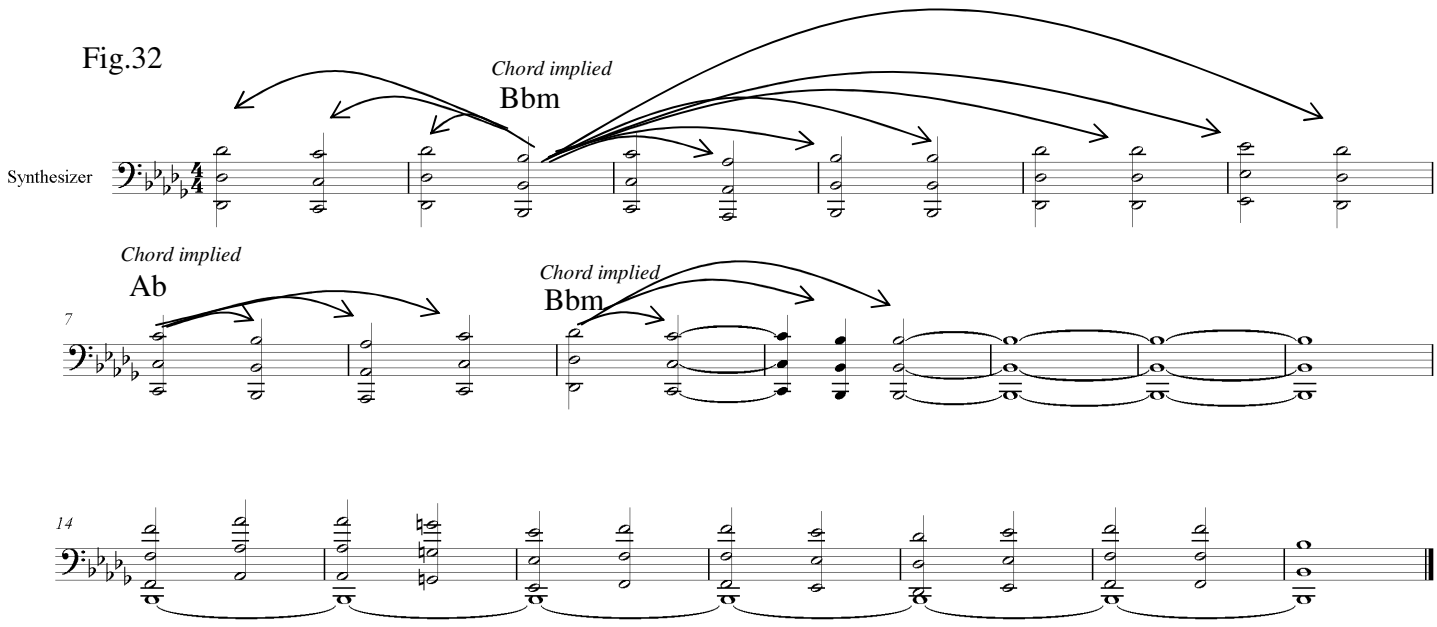
The Shining is an iconic 1980 Stanley Kubrick film based on the novel of the same name by Stephen King. Regarded now as a horror classic and has become immersed into popular culture. A writer, Jack Torrance, takes a job as winter caretaker at an isolated hotel. After the family becomes trapped in the hotel by a snowstorm Jack gradually becomes influenced by supernatural forces and descends into madness. As with all Kubrik's films, music in *The Shining* is of fundamental importance.

The opening scene with Jack driving to his interview at the Overlook Hotel is perhaps one of the most memorable openings for a film. The opening shots, devoid of dialogue and resplendent with panoramic sweeping shots of the beautiful and striking mountainous terrain, are visually stunning. If music was purely for accompaniment only and meant to simply reinforce the scenery, then perhaps Beethoven's Pastoral Symphony might have worked. Wendy Carlos' distinctly uncomfortable, ominous and eerie music proves absolutely that music is at its most useful when it is there for its function. The function of the music is to convey to the viewer a sense of impending doom or unpleasantness. The music juxtaposes the scenery brilliantly and in so doing prepares the viewer and frames the film.

Why does Carlos' introduction music sound so entrancing and mesmerizing? Certainly the distinctive synthesizer textures are captivating and the double-octave melody has a repetitious and ominous air. But melodies which are unaccompanied are usually heavily implicit and suggestive of harmony. Harmony, whilst not being present vertically and physically, is nevertheless present horizontally in that it is suggested by the cumulative context of the melody. The melody note which appears the most is the Bb. The suggestive harmony is Bbm.

The first three notes (Db, C, Db) are initially difficult to rationalise but when the melody hits the Bb, everything is heard in context of the implied Bbm key; everything falls into place. The initial Db, C and Db were the min3rd and maj2nd – we simply didn't realise until we heard the Bb at the end of bar two (see fig.32).

Fig.32



From a phrasing perspective the piece is a little disorientating and disjointed; the first section from bar one seems to feature four two-bar phrases with a five-bar 'tag' phrase on the end which seems not to 'fit', taking it up to bar thirteen. Perhaps, in the final analysis it is the horizontal distribution of the harmony which is most illuminating and captivating. This is not harmony on a plate; this is harmony which uncovers its colours as it goes. Harmony is, in some situations, perhaps more effective when we have to find it.

Chapter 5

IN SPACE EVERYONE CAN HEAR THE CHORD CHANGES (part 1)

This chapter will examine the music for some of the most eminent and successful 'Space movies' in cinema history. The chapter will examine numerous memorable, famous and iconic science fiction films, most of them with a unifying theme of either being set in Space and/or involving Aliens. It will also ask whether there are inherently 'sci-fi' methods of composing music and if there are chord changes, orchestration techniques or melodic devices which are commonly used.

Films and music discussed are: *Alien* (Jerry Goldsmith / Howard Hanson) *Aliens* (James Horner) *Apollo 13* (James Horner) *Independence Day,* (David Arnold) *Star Trek* (Alexander Courage, Jerry Goldsmith, James Horner and Michael Giacchano) *Mission to Mars* (Ennio Morricone) *Batman Forever* (Elliot Goldenthal)

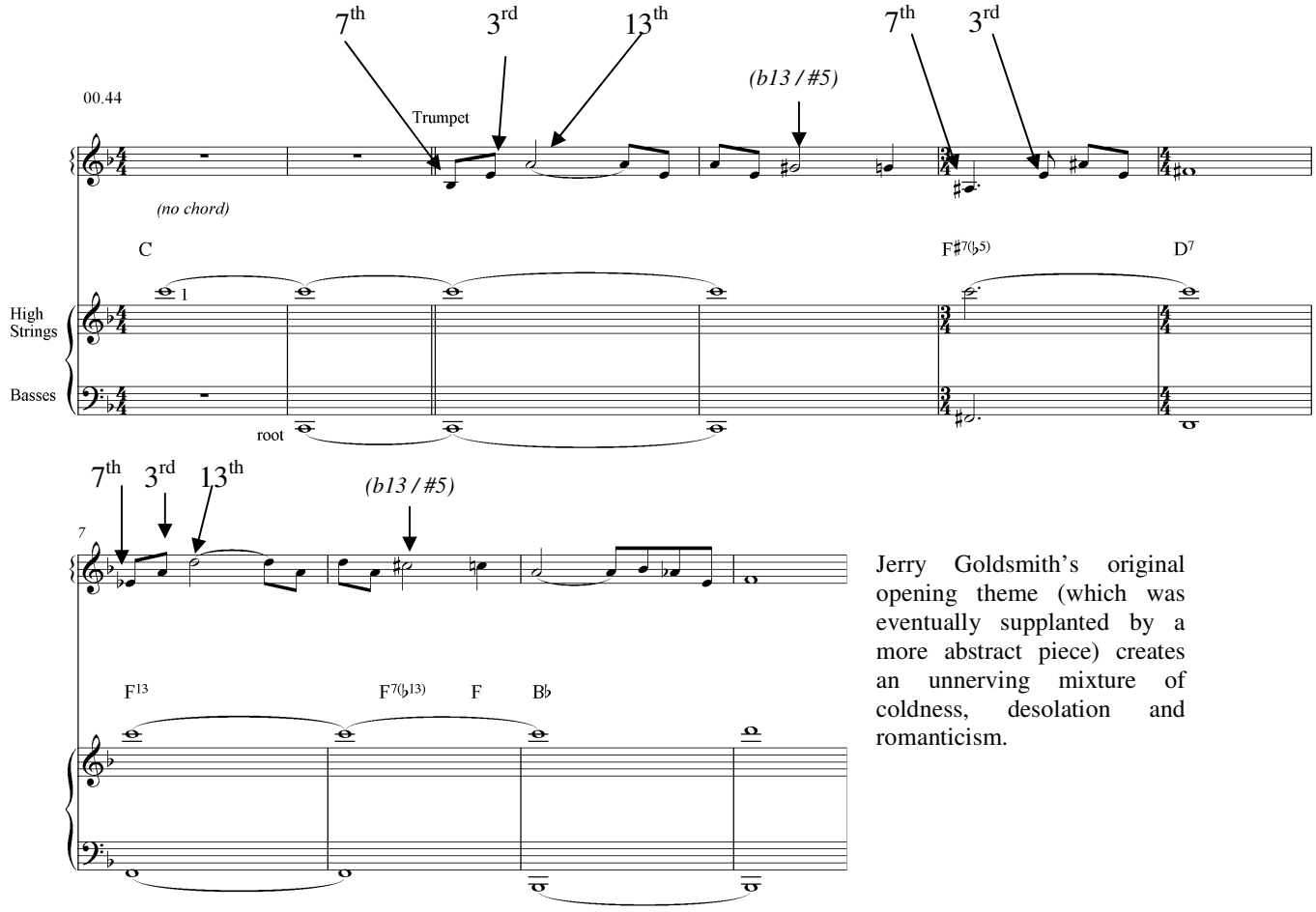
ALIEN *Jerry Goldsmith*

Alien is a 1979 science fiction film directed by Ridley Scott. The lead character is a creature that stalks and kills nearly the entire crew of a spaceship. The common mantra that *Alien* was to *Star Wars* what the *Rolling Stones* were to the *Beatles* goes some way to articulating how the film *Alien* is perceived by cinema-goers. *Alien* offers a subtle, cold, desolate environment; it lacks the usual Hollywood sheen – the razzmatazz, the glitz and the spectacle. It is a slow, plodding, brooding, dark film but one which completely captured the imagination of people who watched it. If *Star Wars* was the big commercial success and *Close Encounters* was an art-house film, what was *Alien? Alien* was essentially a film about a working-class crew on board a spaceship; people argued about bonuses, people smoked, we see the cold, inhospitable inner workings of the vessel. The film doesn't try and glorify' Space' or turn characters into heroes.

The film was about terror, not horror; and if we take it one stage further it wasn't even about terror but the *fear* of terror. Ridley Scott wanted to exploit the effect not of what you see, but what you *fear* you might see. The terror is not the Alien; it is the *thought* of it, the fear of it. In seeing how far you can cock the pistol before releasing the trigger, many of Scott's tactics were Hitchcockian. This is not to say that the *Alien* doesn't look scary. Designed by Swiss surrealist artist H.R. Giger, visually the creature encapsulated the very essence of fear. But the number of times we actually see the creature is minimal and this serves to enhance the fear of it.

The score for *Alien* was composed by Jerry Goldsmith and orchestrated by Arthur Morton. Goldsmith created an orchestral score featuring elements of romanticism but including harmonic tension and dissonance. The suspense and fear of Scott's film owes much of its emotion to the distinctive and communicative music of Goldsmith. Ridley Scott described Goldsmith's music as "seriously threatening but beautiful". Perhaps a great example of this is the opening music, a small part of which is scored out below.

Fig.1 *Original Main Title Theme – Audio 00.33*



Jerry Goldsmith's original opening theme (which was eventually supplanted by a more abstract piece) creates an unnerving mixture of coldness, desolation and romanticism.

The slow legato trumpet phrasing provides a dramatic, romantic and inviting contour, but the harmonies tell a different story – they create an entirely separate emotion – difficult, desolate and bleak. How does one short thematic piece manage to communicate so vividly? The low pedal C in the basses and strings four octaves higher gives the piece an eerie, barren quality, devoid of harmony. Although there is no chordal accompaniment Goldsmith provides a melody which is *suggestive* of a specific chord by virtue of the Bb, E and A (7th, 3rd and 13th). Creating harmony in a staggered, horizontal way, via melody, is an effective device because the listener experiences the harmonic flavour subtly; it is not offered 'on a plate' via accompanying chords.

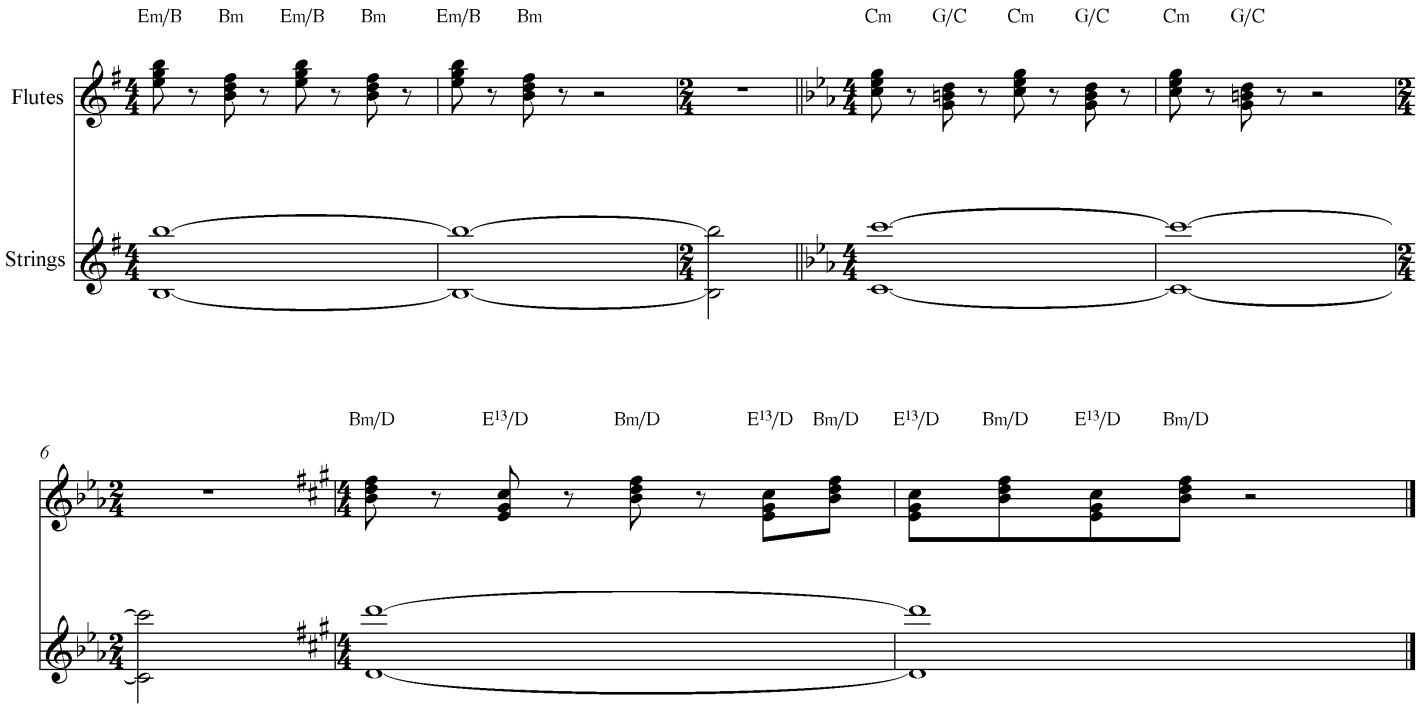
But this, in and of itself, is not particularly noteworthy until you examine the *choice* of melody, which gives us the impression of a C13 chord. If it had merely been a 'normal' chord (C, E and G for example), the effect would still have been suggestive but wouldn't have been as captivating. There are slight tensions between the Bb note (7th) and the A note, stating the 13th; the gap which separates them is itself a maj7. The tension is mitigated by the E (maj 3rd) in between, but it is still there, not least because the interval between the Bb and E is the #4 and the interval between the E and the A is a straight, bare 4th. But what brings the sci-fi element is the G# (augmented 5th, bar four). This odd interval creates a fundamentally skewed tension. One element that helps consolidate the theme is to be found in the first two notes of bar three, which are repeated in bar five. The first two notes (Bb and E) represent the 7th and 3rd of the implied C chord in bar three but in bar five the same two notes now represent the 3rd and 7th of the implied F# chord – thus the intervallic context is reversed.

Listeners hear the same two notes but with mirror-image intervallic context. This simple device helps the piece develop consistency but not tedium. We have the comfort and security of the same 'notes' but the variation of different intervals being attached to those notes.

The next transcription from *Alien* is a section around four minutes into the film just prior to the crew being awakened from hypersleep. The viewer, through the camera, navigates their way through the empty lifeless corridors of the ship before entering the room in which the crew is sleeping.

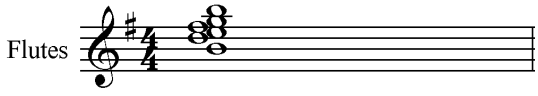
Audio – 'Hypersleep' Film - 00.04.30

Fig.2



The repetitive fluctuation in the flute harmonies between Em and Bm with a string line of B overlaid offers a slightly disorientating harmonic context because we rationalise the two chords almost as one, presenting a 'duality of harmonic perception'. When I say we 'rationalise' I obviously don't mean that every viewer/listener knows which chords are being played, what I mean is that irrespective of our understanding of harmony or our level of aural cognition, we are the beneficiaries of the effect of harmony. Whether we are aware of it or not, we listen to music in context of fairly rigid and preset notions. We categorise and classify music, gradually building up an impressive database of almost subliminal knowledge which then informs how we listen to new music. So when we are confronted with harmony which challenges our assumptions, this process forms part of how and why we respond as we do to harmony. Even something as simple as Goldsmith's use of implied polyharmony has an effect on us.

Fig.3

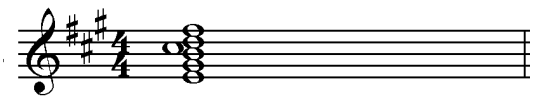


Perhaps a good way of rationalizing the 'duality of perception' is to play and listen to a composite chord containing both the Bm and Em (left, fig 3).

The example in fig.3 is a caricatured and exaggerated version of what we hear in the first two bars of fig.2, but it serves to illustrate the kind of harmonic tensions which are implied. If the piece in fig.2 were to exist minus its string line, its just two different but related chords; but *with* the string line they are more bound to each other and thus are heard almost as one.

What helps create the strangeness is the root-positioned voicings of the chords in bars one-two of fig.2. If we were to try and mitigate the 4th interval that separates Em and Bm we would re-voice one of the chords, inverting it, ensuring a smoother transition. By retaining the root-based voicing we italicise and exaggerate the 4th interval between the two chords and in so doing make the 'duality of harmonic perception' more extreme and obvious. The second entry (bar four, fig.2) is similar but there is slightly more tension because the two 'flute chords' (Cm and G, root positioned as they are) *sound* slightly more chromatic, stark and less obviously related. In the third entry (bars seven and eight, fig.2) although there are two different chords (Bm/D and E13/D) we perceive them collectively as E13.

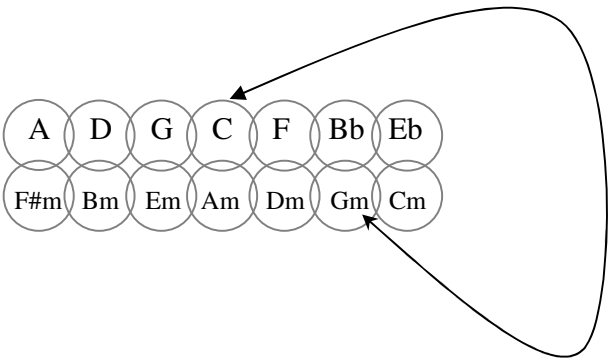
Fig.4



Indeed if we look at the composite example from bar seven of fig.2 (left, fig.4) we can see how much more easily the Bm/D and E13/D fuse together

A subtle but typical example of Goldsmith's eye for detail in terms of tiny harmonic subversions is the way the Bm and E13 chords (bars seven and eight, fig.2) are based over the D bass - the D bass clashing beautifully with the C# (13th of the E chord but a major 7th higher than the D note). A straight E13 would be far too ordinary, too casual. Also the held D notes on the low basses and high strings fluctuate between being an inverted minor 3rd of the Bm chord and a 7th of the E13 chord. So much of the art and beauty in Goldsmith's music is all the more poignant because it is implied rather than completely stated. In vol.1 of 'How Film and TV Communicates a chapter entitled 'Music Theory in Action' introduced the 'chord grid' system. In that chapter we looked at what we called the 'sci-fi chord change', which is simply a popular, effective and oft-used chord sequence which sounds uplifting. In the key of C (fig.5, below) the sequence would be C-Gm or Gm-C.

Fig.5



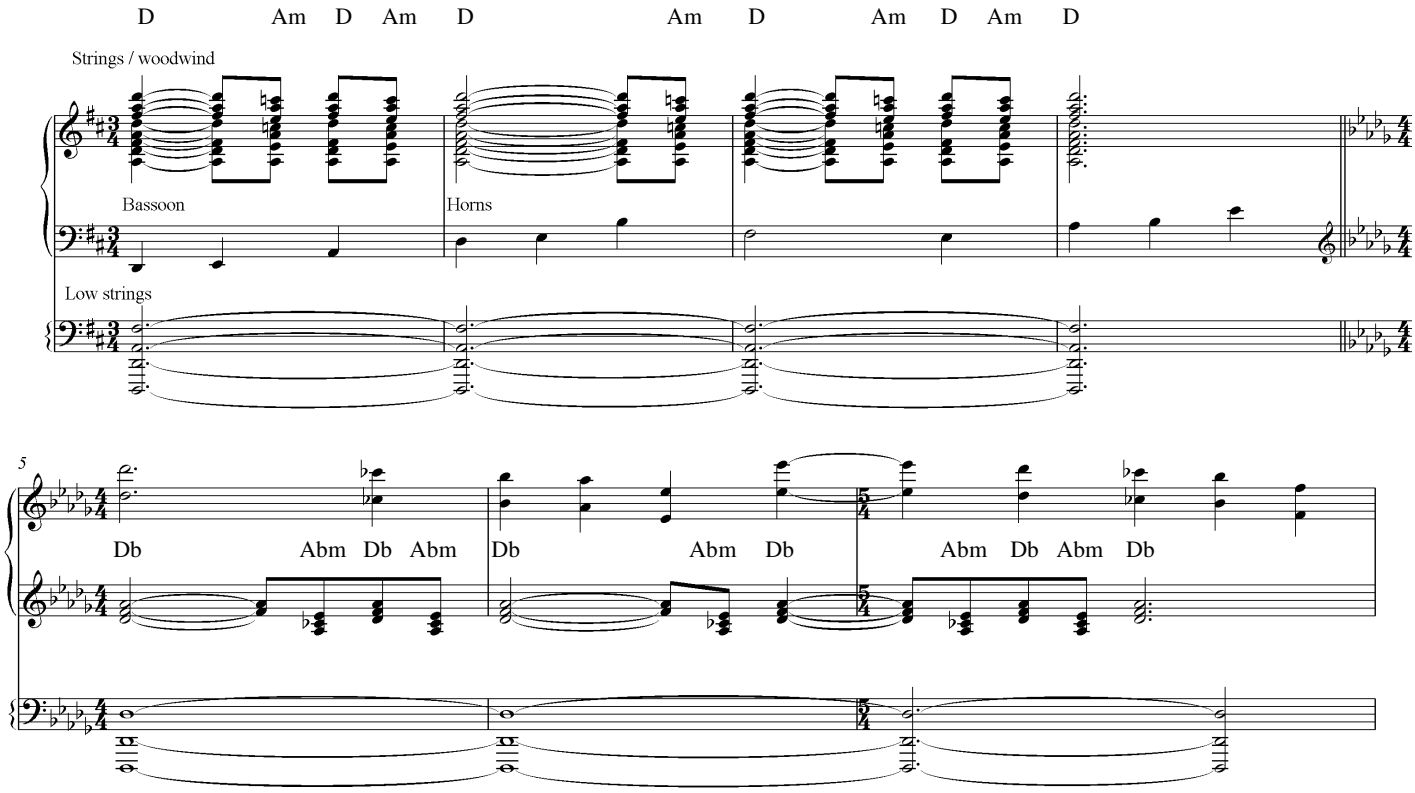
The sequence is relative, so it will work in all keys (for example G-Dm / Dm-G, D-Am / Am-D, A-Em / Em-A, F-Cm / Cm-F, Bb-Fm / Fm-Bb, etc. This sequence appears in hundreds of film scores, but is most prominently used in science fiction films. The sequence seems to convey the profound drama and gravity and the sheer magnitude of what 'Space' is.

The vast context of what 'Space' *is* and what it means is interesting because it often suggests contradictory emotions of excitement and fear, exhilaration and apprehension. But it is not only words or pictures that can describe these vast and complex emotions; music can describe just as clearly. If what Buz Aldrin notably called 'magnificent desolation' had a chord sequence, this would be it.

The sequence below (fig.6), taken from a later section of 'Hypersleep' features the extremely communicative 'sci-fi chord change'. As is always the case with Jerry Goldsmith, he dresses communicative harmonic devices up in the kind of colour that draws out the harmonies and italicises the moment beautifully. The sequence is subtly delivered because the low strings on the lower stave stay on the chord of D whereas the top stave (which contains mid/high woodwind and strings) state the 'sci-fi chord change' (D to Am). This slight, almost imperceptible harmonic blur lessens the clarity but in doing so makes it more effective for the scene. Also in bars one-four there is the slightly distracting bassoon counterpoint. In bar five the woodwind (middle stave) 'take' the sci-fi chord change (Db to Abm) but once again this is blurred beautifully by a low pedal Db and a melodic figure in the strings (top stave). The key characteristic of Goldsmith's use of the chord change is that it displays a kind of majestic subtlety.

Audio – 'Hypersleep' - 01.00

Fig.6

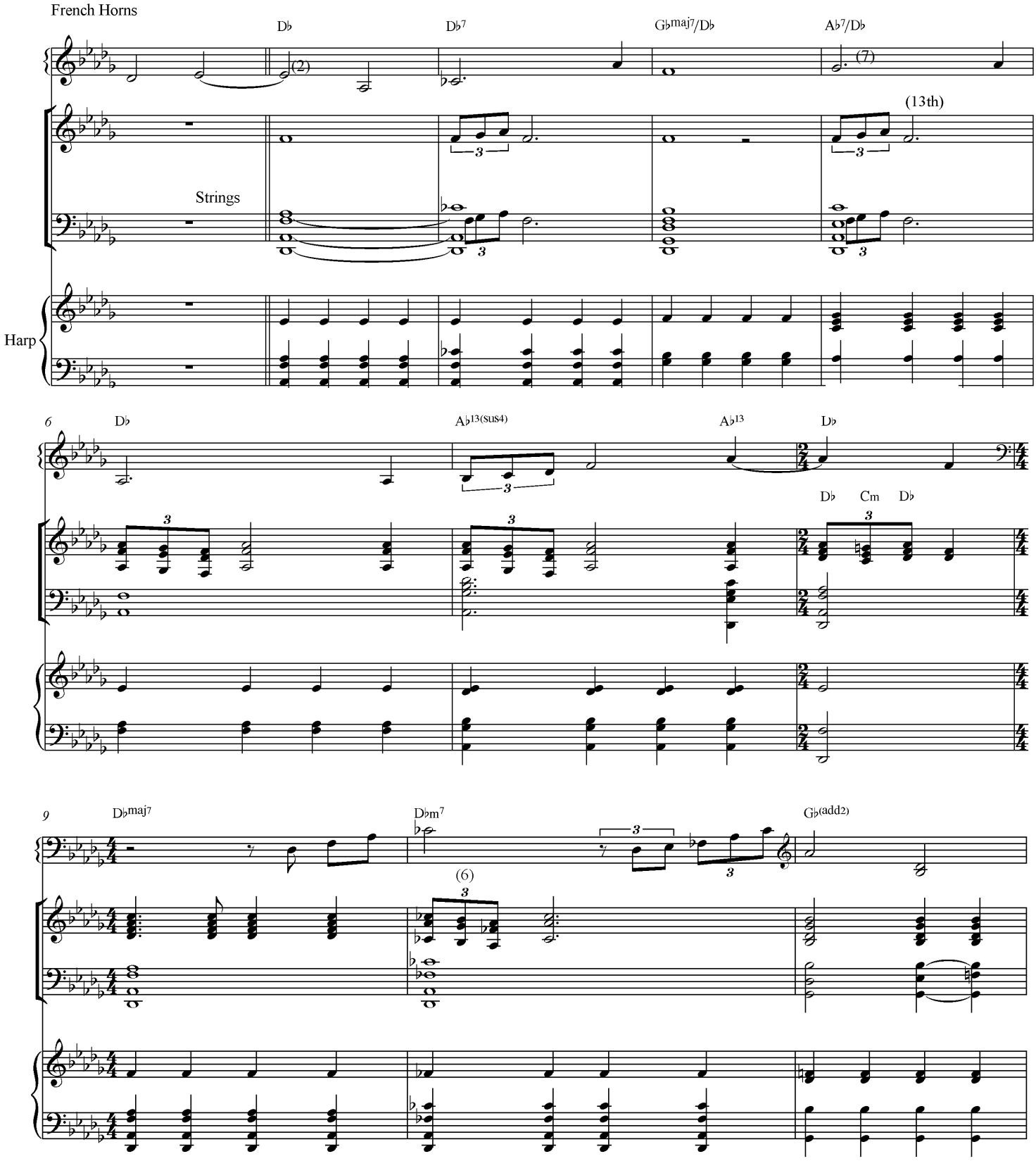


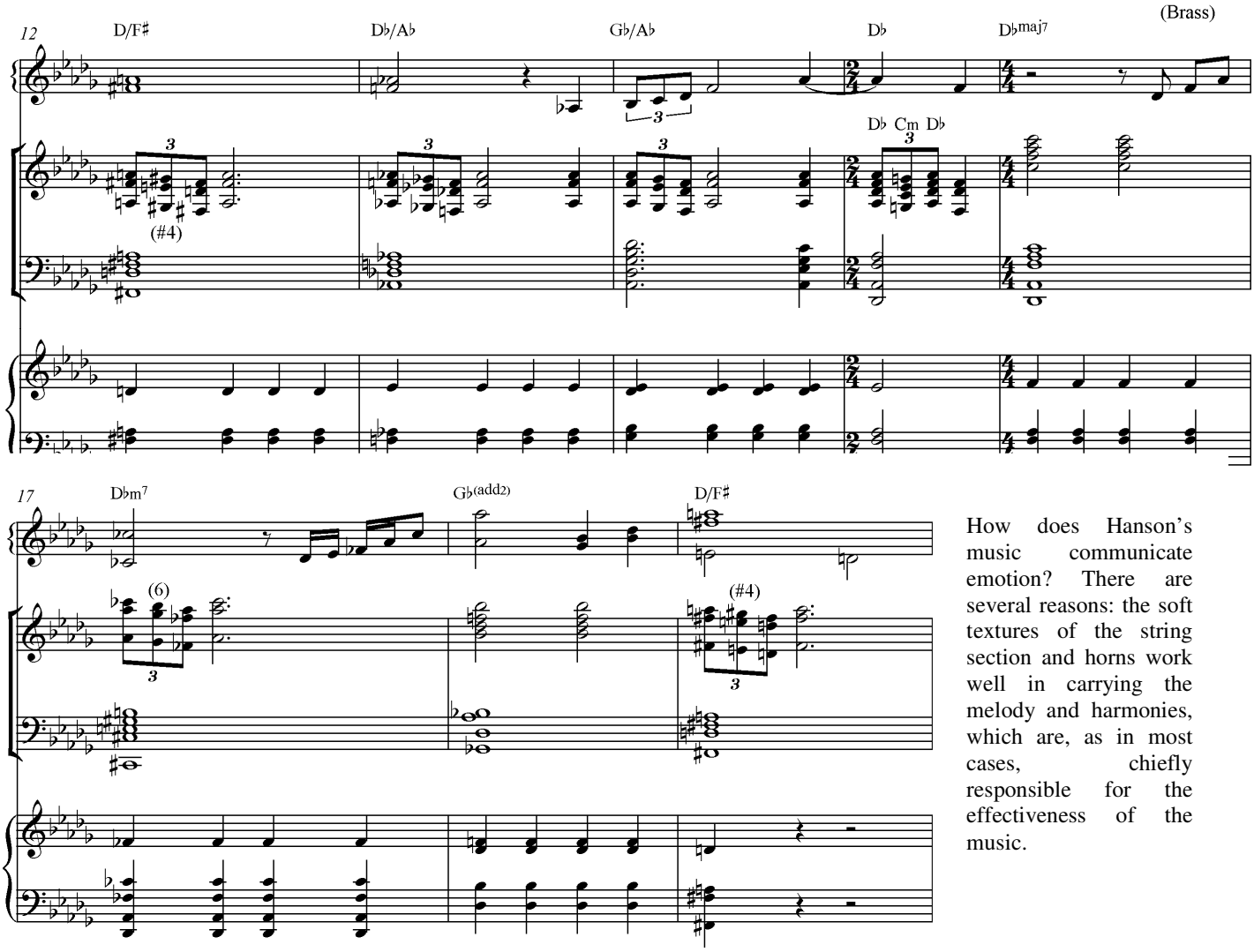
The end title sequence to *Alien* was taken from Symphony No.2 by 20th Century American classical romantic composer Howard Hanson. The inclusion of Hanson's music was allegedly not welcomed by Goldsmith, probably not least because of the excellent end-titles music he himself had written.

That said, the Hanson piece works extremely well. Hanson's music appears first at 01.47.44 in the movie (just after the main protagonist, Ellen Ripley, blasts the Alien out of the spaceship, killing it). The section of Hansom's 1st Movement which is played at this point successfully italicizes the euphoria of the moment; the success, the achievement. But at 01.49.12 a more sedate and pedestrian section of the same piece comes in as the scene briefly shows Ripley, serene and tranquil in hypersleep, before cutting to the final credit roll. At this point the soft textures and lush romantic harmonies of Hanson's music are extremely comforting and captivating. The music successfully and subtly articulates several aspects of the narrative: on a surface level it underscores the relief in the defeat of the enemy. In a broader context it succinctly and expertly distils many emotional aspects of the film, highlighting the vulnerability of humanity in the face of adversity, the sadness of the loss of life and the serene calmness of the aftermath. In other words, it works as an emotional commentary on the film as a whole. Hanson's music does all this and more, which is why it was an inspired choice for the end titles music. Transcribed below is a small edited extract from the end-titles music

Fig.7

Movie - 01.49.13, Audio – Movement 1, Symphony No.2' - 11.30 Howard Hanson





How does Hanson's music communicate emotion? There are several reasons: the soft textures of the string section and horns work well in carrying the melody and harmonies, which are, as in most cases, chiefly responsible for the effectiveness of the music.

Throughout the passage the harp plays repetitive and slightly monotonous crotchet chords offering rhythmic stability, which is juxtaposed by the complex harmonies created by the strings and horns. The string melody note (bar two) begins on the major 3rd (F), a rich, descriptive and romantic interval. This is beautifully contrasted by the French horn which in the back end of bar one plays the Eb, which is held over to bar two, functioning as an 'add2' – another romantic interval; there are no supportive harmonies in bar one so when the horn plays the Eb we are unsure about what that note constitutes, harmonically so we simply default to type and assume either nothing, or that it's the root of an Eb chord. There is therefore a palpable element of emotion when it is *revealed to be* the add2 of the Db chord in bar two. In other words what we react to is not the 'note' but what it turned out to be; what it represents from an intervallic perspective.

The #4 plays a part, as it frequently does in film music; in bar eight the mid strings (middle stave) briefly state a Cm chord over the Db chord being played underneath throughout the bar. Although we see the G note as part of the brief Cm chord, we *hear* it as a kind of subtle #4 of the Db chord. There is more fascinating harmonic interplay in the piece, including bars eleven-twelve where the root note of Gb in the chord in bar eleven evolves to become the F# inverted pedal note of the D chord in bar twelve. This is a well-known filmic device but one which is predated by some of the great classical romanticists.

The string voicing in bar four is interesting in that the maj7 of the Gb chord is buried in the mid/low range which forces the Gb root to be placed an octave lower to avoid a semitone clash. The Gb itself sits over the even lower inverted Db bass. The harmonic tension and ambiguity created by these 'lumpy' voicings creates a slightly dense, almost imperceptible lack of clarity which succeeds, just for a moment, in giving the chord a sense of vagueness. Similarly in bar five there is an effective clash between the 7th on the horn (Gb) and the octave F notes (13th) on strings. This semitone tension sounds more subtle than it would otherwise be due to the lush instrumental textures of the orchestration.

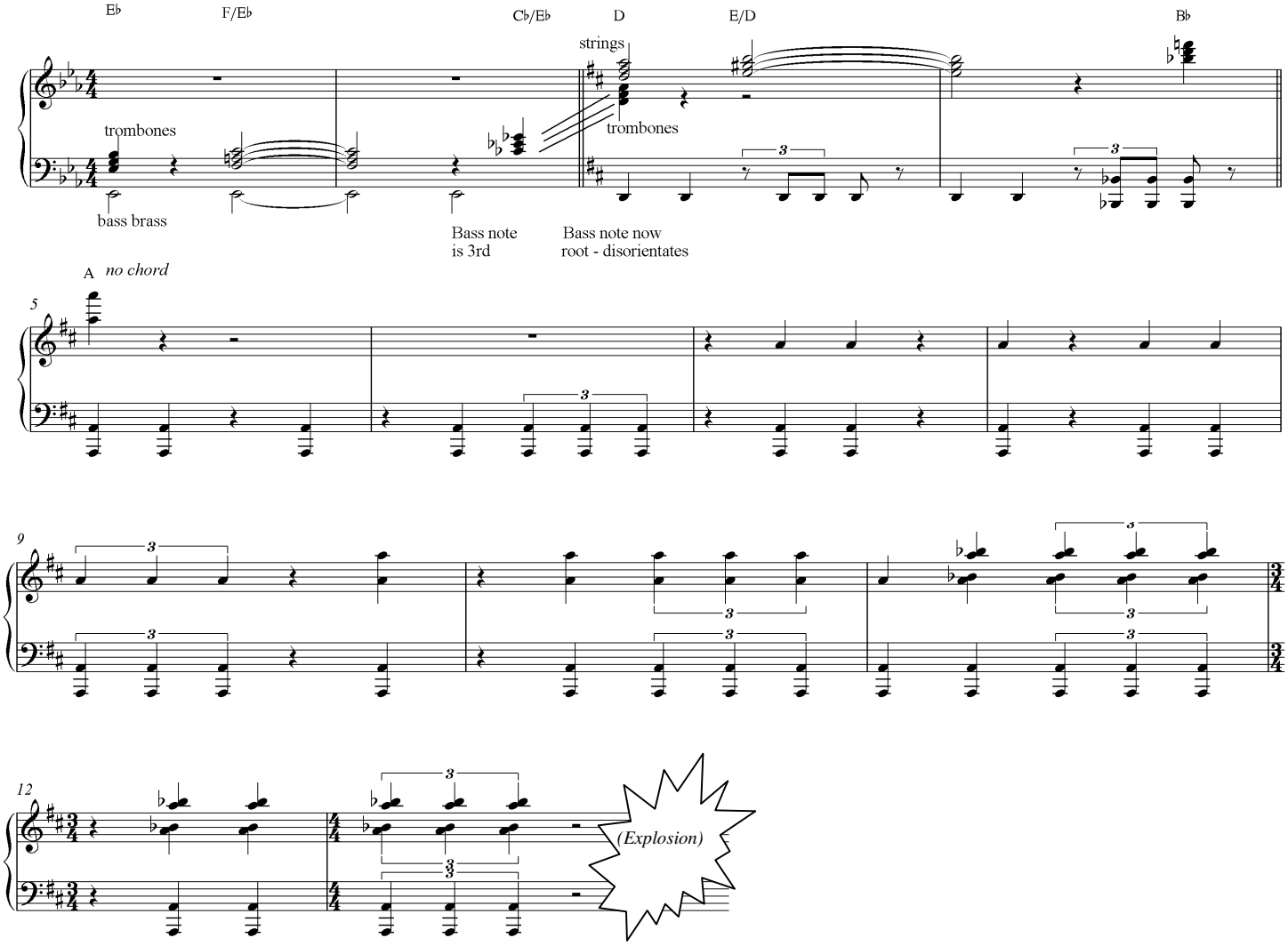
ALIENS *James Horner*

Aliens is probably one of the best examples of great music written under great pressure. Because of overruns Horner wasn't given the amount of time needed to score it. Arriving in England expecting the film to be 'locked' (edited and ready) so he could write it in the agreed six weeks, Horner discovered that filming and editing were still taking place. To make matters worse the overrun was eating into *his* allocated writing time. Further, Horner also realised that the famous Abbey Road studios used to record the score wasn't able to handle many of the technological requirements. Nick Redman said on the soundtrack album sleeve notes "It's not surprising that Horner was Oscar-nominated for *Aliens*, but that he gained it in spite of the fact that almost every cue was re-edited and truncated – only two of the music cues are where they should be and only one cue plays in its entirety". A few weeks from the theatrical release of *Aliens* no dubbing had taken place and the score had still not been written. Horner was still unable to view the completed film. The final cue for the scene in which the main protagonist, Ripley, battles the Alien queen, was written virtually overnight. The director James Cameron had completely reworked the scene, leaving Horner only hours to rewrite the scene. In the end the score was recorded over four days and despite the issues Horner received his first Academy Award nomination. Such was the tension Horner presumed he would never work with Cameron again. In fact they reunited for *Titanic* and *Avatar,* two of the most successful films ever made.

Although we are used to rationalising expertise and talent we don't understand in terms of abstract and unreliable notions of 'persona greatness' and 'genius', as we have discussed before, these are often monolithic, emblematic and unreliable notions and concepts which stand as testament to our inability to rationalise and understand music in a more coherent and less hysterical and dramatic fashion. It is part of a convoluted, empirical system through which society rationalises things it doesn't understand by simple arriving at the conclusion which is the most exciting. The romantic notion of composers sat for weeks and month methodically pontificating and conceptualising their art is not something a film composer would easily recognise. Carving out an emotional and musical response to accompany moving pictures isn't about a non-defined and abstract concept like genius; it's about the appliance and manipulation of fantastic musical skill, craftsmanship and an equally great understanding of structure, architecture and placement. It's about understanding how to create emotion in music. To do this quickly and under great stress composers rely on a vast wealth of knowledge, a massive understanding of voicing and orchestration together with imagination, instinct and professionalism. Although this isn't genius it's still only to be found in a very small number of people.

To rationalise and ultimately understand music we must rob it of its seemingly impenetrable mystique. The myth of genius acts as a convenient fig leaf behind which to hide the rather more believable abilities composers possess. It seems appropriate to examine that final cue, composed overnight, which became one of the most recognisable film music cues. Once we break it down into bite-size chunks, unpick the harmonies and navigate our way through the dense colour of the orchestration the secrets behind the success is that there *are* no secrets – it is the application of consummate skill, judgement and imagination.

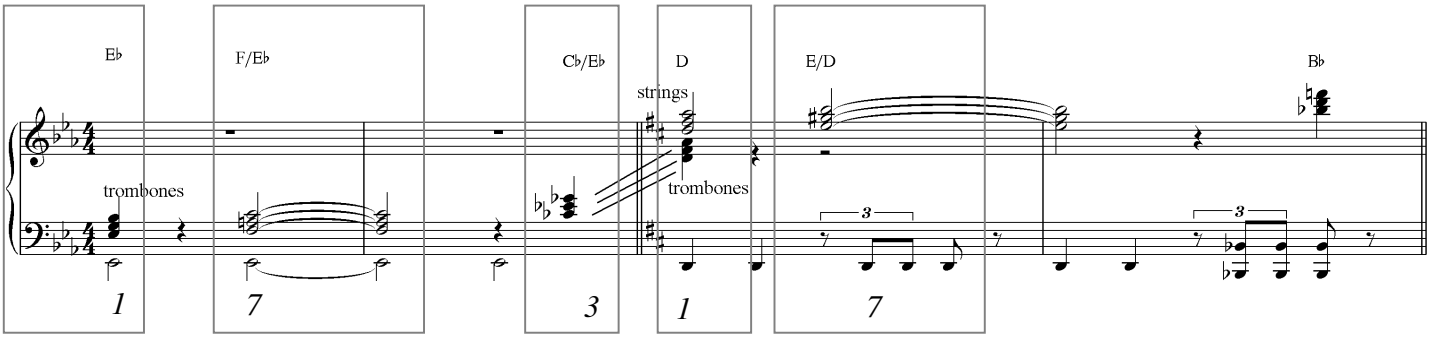
Fig.9 *Audio - Bishop's Countdown 01.01 Movie - 02.15.50*



There are several aspects and issues in this one cue which explain how and why it works and communicates a real sense of excitement, apprehension and even fear. The way Horner works with the sound design and embraces it as part of the music is worth examining first. In film composition the image and sound design becomes part of the fabric of the music; so much so that sometimes the music alone might seem strange. The music is part of the contextual and narrative fabric of the movie, but it works the other way round too; Horner's cue doesn't have an audibly obvious 'last chord'; the on-screen explosion fulfils that role.

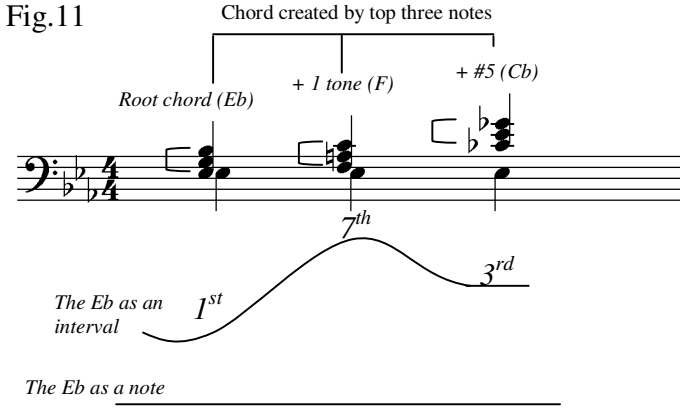
Looking again at the first few bars, trying to find the drama; what's so special? What's going on harmonically or rhythmically to account for the penetrative and exciting nature of the music. Below the first few bars are isolated so as to unravel what harmonic factors are responsible for the dramatic feel of the music.

Fig.10



Looking at the Eb pedal note in the first two bars we can see its intervallic context evolves dramatically from root to 7th to 3rd. Although the vast majority of people will be unaware of how and why this changing harmonic dynamic affect creates such drama, their enjoyment of the music will benefit regardless. The way in which we hear, listen to and rationalise the evolution of the Eb is absolutely key; we subconsciously focus on the Eb in a way we wouldn't if it were simply a note within the chord. Because it occupies the bottom position of the chord it is more exposed; therefore anything we 'do' to the bass note is more apparent and evident. The rapid intervallic rollercoaster ride of the Eb creates drama and emotion not least because it does so without actually changing the note at all. It simply alters what the note *means*.

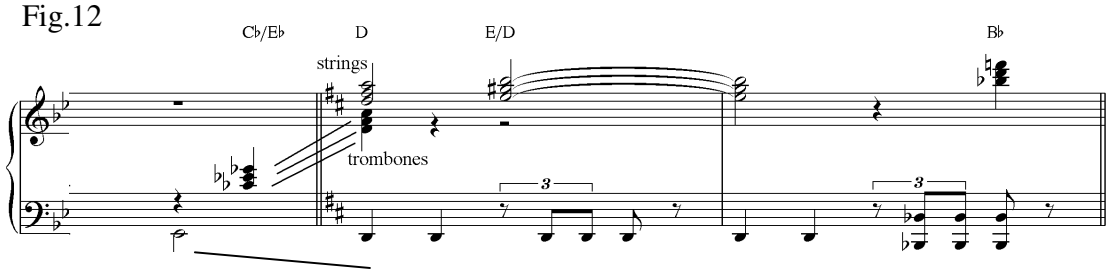
Fig.11



If we look at the example in fig.11 we can see the chords have several different realities: the top three notes of each chord moves upward (Eb, F and Cb). The root note of each chord remains the Eb. However the intervallic context of the Eb itself changes from root, 7th and 3rd. What this all amounts to, is that the music communicates in various different ways.

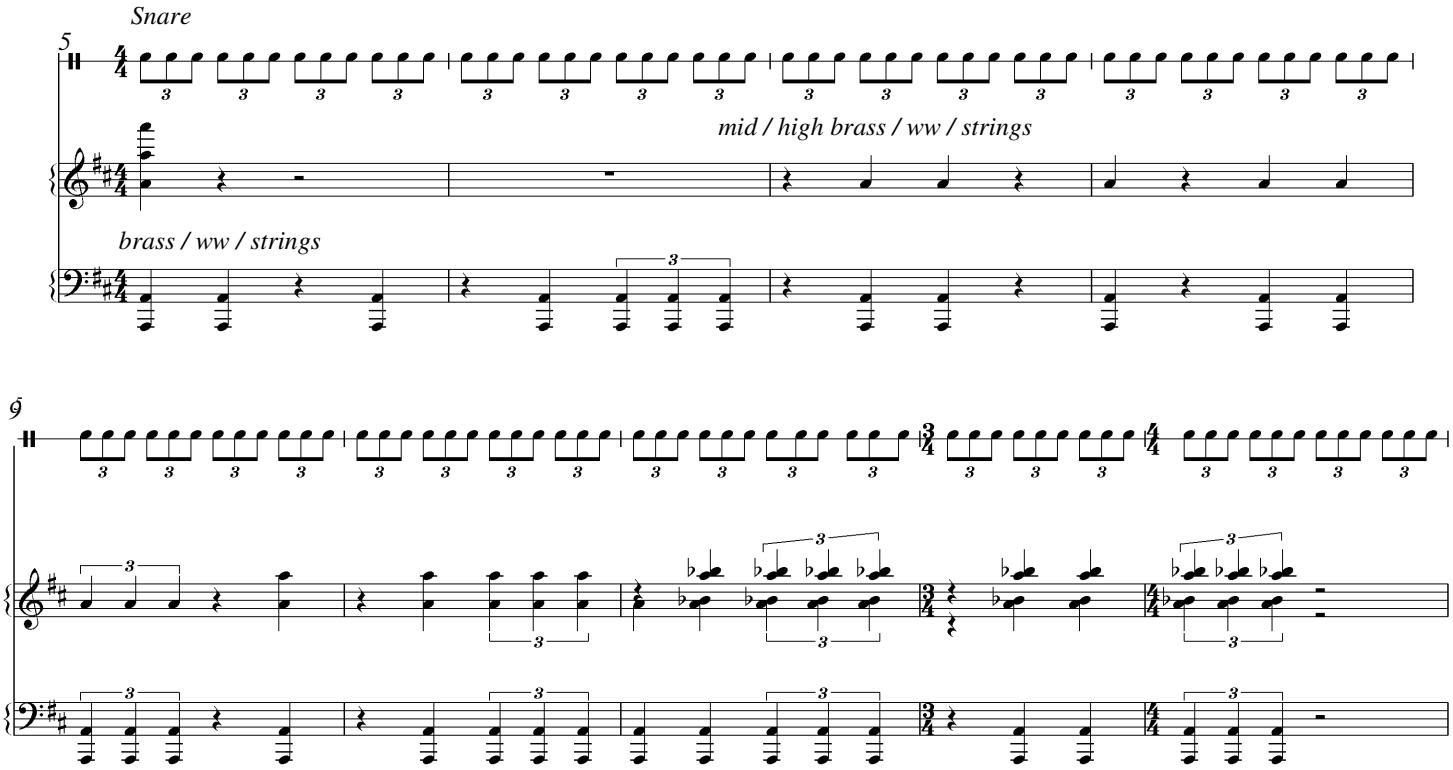
The same type of sequence that had appeared in bar one of fig.9/fig.10 appears again in a different key in fig.12 (below); the transition between the keys of Eb and D contains contrary motion between the chord and bass note. The bass note descends from Eb to D whereas the chord ascends from Cb to D, which makes the transition less abrupt but more dramatic.

Fig.12



The transcription below (fig.13) is taken from bar five of fig.9; this time the focal point of the analysis is the rhythmic interplay between the brass, woodwind strings and percussion.

Fig.13



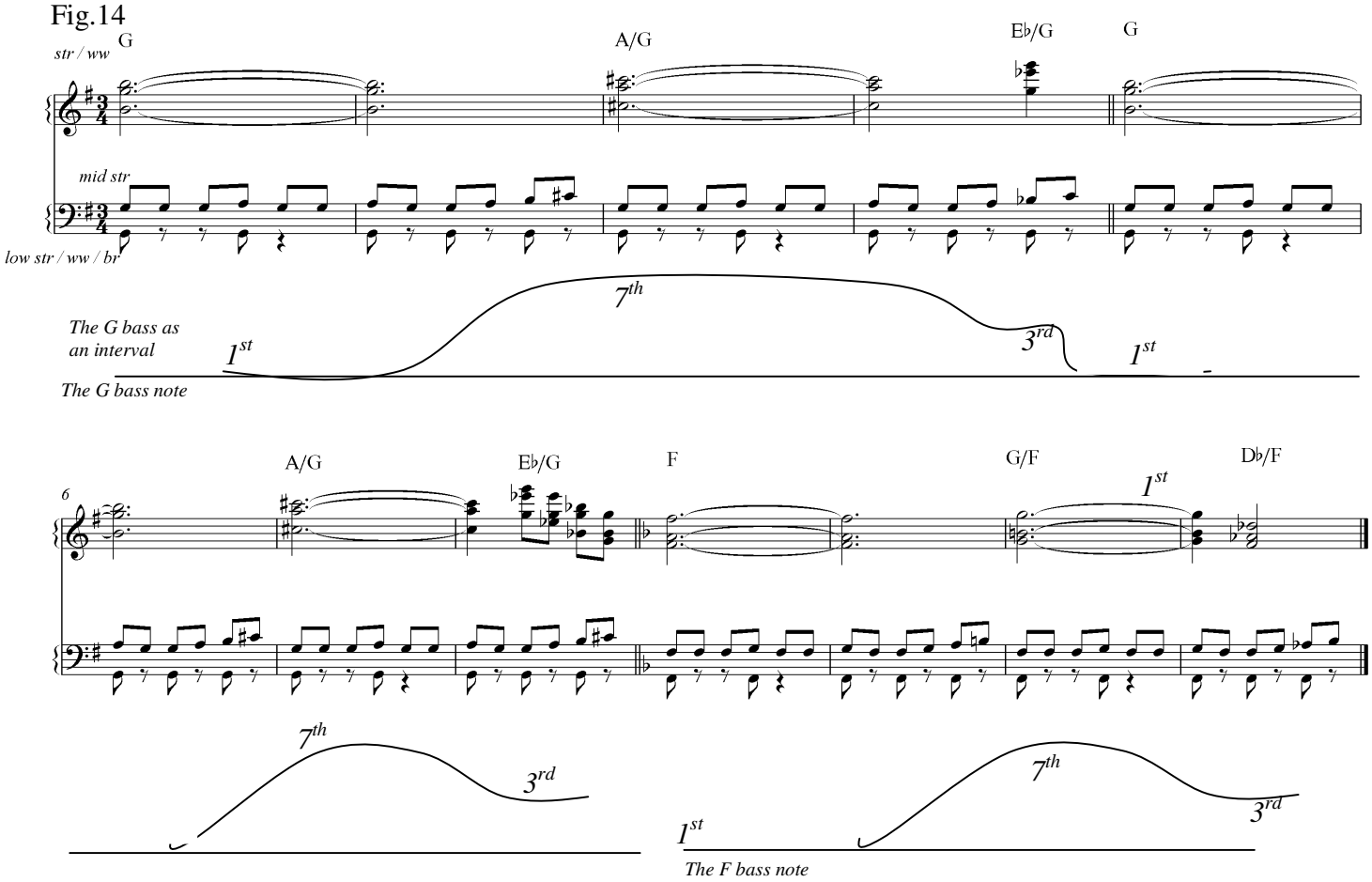
One of the most dramatic elements of this entire cue is the rhythmic syncopation between various elements of the orchestra. We have the contrast and reaction between the crotchet triplets of the strings, brass and woodwind and the quaver triplets of the snare. In addition there are incredibly effective sections where the 4th beat of a bar *is* stated and the 1st beat of the subsequent bar is left *unstated*. This confounds what we would normally 'expect', adding drama and excitement to the listening experience. The offbeat statements coming after an accented 4th beat in the previous bar is disorientating. Finally, as the cue travels inexorably toward the sound design explosion, Horner adds the spectacular semitone clash stated on the mid/high brass.

The cue works well essentially because in various ways, once again it gives us something we didn't expect; it challenges and confounds our expectations and stretches our aural perception with subtle harmonic and rhythmic interplay. That the cue sounds dynamic, dramatic, forceful and vibrant is something listeners know; what they understand to a lesser degree is how and why. Indeed part of the excitement and charm of music is tied up in the fact that most people simply don't know how and why it works, which in turn is what fuels the notion of success being some great unfathomable mystery. Whilst it may be okay for listeners and consumers of music to remain oblivious to how it is created and hide behind the abstract and metaphysical twin notions of greatness and genius to explain that which they don't understand, successful composers *do* understand which buttons to press and why so many of them are so comparatively easy to find. If this were not the case the inherent similarities in music structure wouldn't have evolved in the way they have and film music would not be able to be written at the breakneck speed it mostly is. Indeed Horner himself makes great use of the specific harmonic dynamics he used in *Bishop's Countdown* in a later film score he wrote; *Apollo 13* (below, fig.14).

APOLLO 13 *James Horner*

Audio 'The Launch' 08.03 – Movie 00.36.00

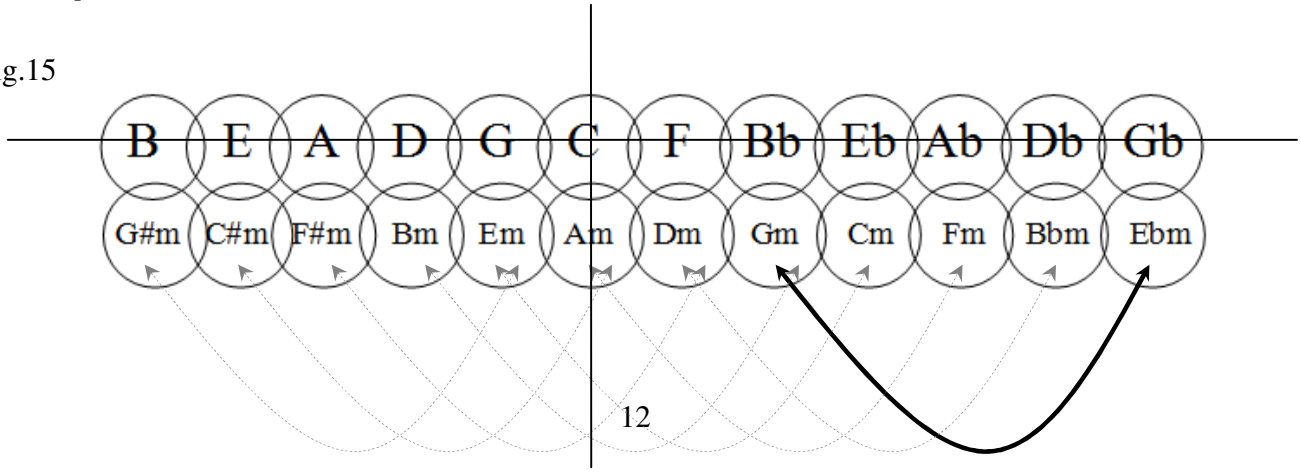
Fig.14



Another great sci-fi chord

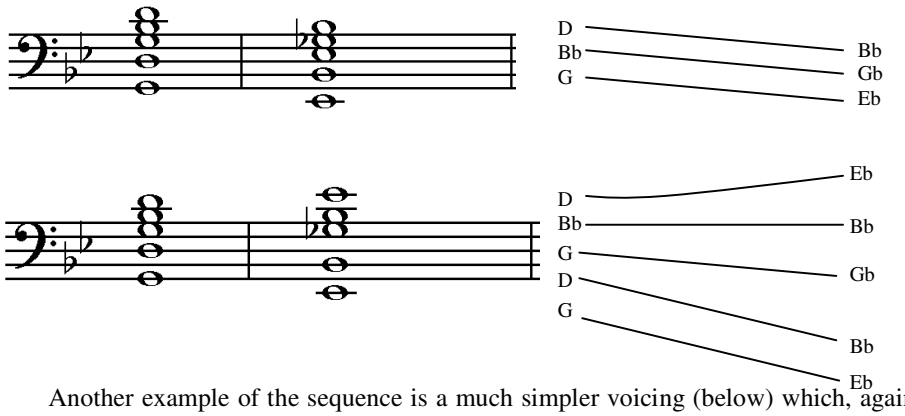
In context of the chord grid system described in the chapter titled 'Music Theory in Action' (in Vol.1) I have displayed the range of root-based major chords revolving around the key centre of C, which lies in the middle, including the relative minors underneath. On this grid I have highlighted the Gm to Ebm (i.e. a major 3rd down) chord shift. The shift is relative and happens whenever you play one minor chord a *major 3rd down* from another. I have highlighted the same maneuver from different starting points via a grey perforated line.

Fig.15



Chords are always hostage to their voicing. Voicing is at the heart of how and why harmony communicates as it does. Simple root position major or minor chords without any extensions are unambiguous, direct, absolute and easy to interpret; all of which means that, in context of film music, which has to communicate vast and complex emotions, such chords are seriously limited. If we play the Gm to Ebm sequence highlighted above in root position the transition is quite stark and chromatic sounding. This is because the chord movement and the individual note movements *within* the chord are parallel and identical; there is no variation. The first two chords in the transcription below (Gm to Ebm, fig.16) sound symmetrical, chromatic and clinical because the intervallic movement (displayed as lines to the right of each two-bar sequence) within the chord *is identical*, whereas the same two chords voiced differently (underneath) work in a different way precisely because the intervals within are varied.

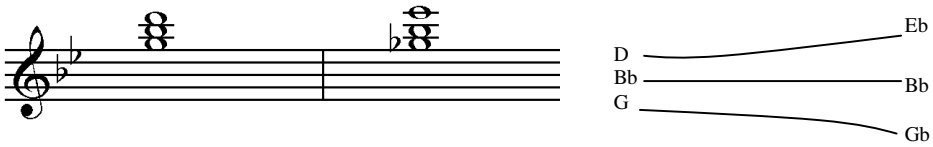
Fig.16



The 'collective chord drop' (Gm to Ebm) is a major 3rd but due to subtle revoicing in the second example the individual intervallic changes are varied. The strangeness of the chord change is retained but now it is delivered in a variable harmonic context

Another example of the sequence is a much simpler voicing (below) which, again, allows for the top note to rise, the middle one to remain static and the bottom one to drop; classic contrary motion. The thinly voiced version is often more effective because of the minimal voicing italicises the intervals.

Fig.17

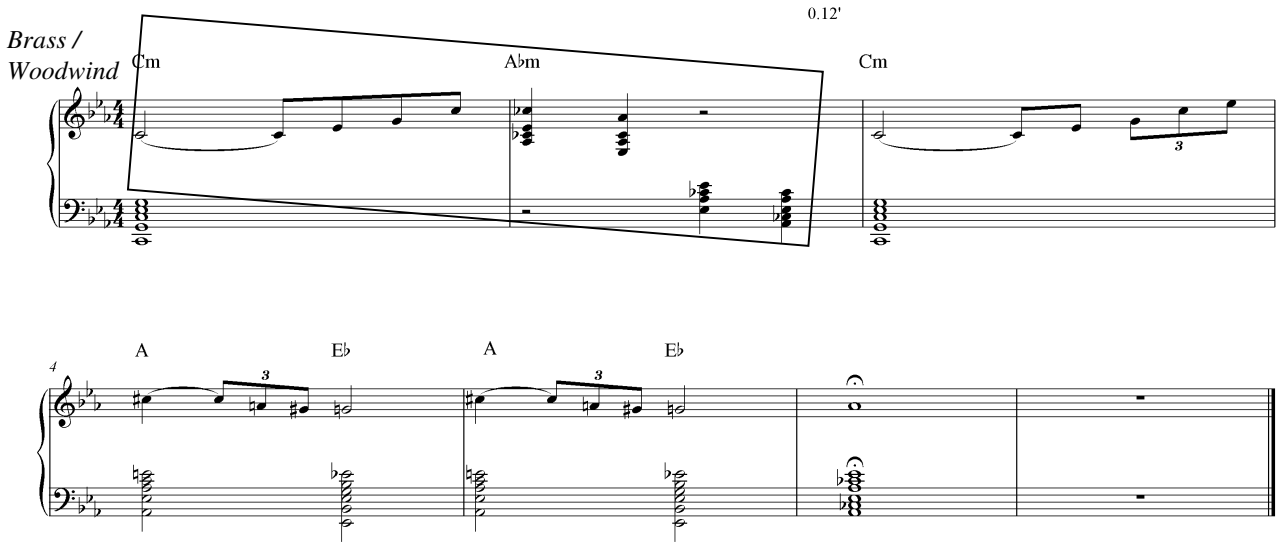


The reason this chord shift works well in science fiction is because it represents two chords from outside each other's key centre. The harmonic dynamic contained in this situation causes unease in the listener. The other reason it sometimes works so well is because the strangeness contained in the shift is delivered with soft instrumentation (usually subtly voiced strings, brass and/or woodwind). That said, in highlighting three examples of the numerous occasions when this sequence has been used, it is perhaps fitting for the first example to show it in its most obvious, dramatic, non-subtle and theatrical context, within the main title theme for *Batman Forever* by Elliot Goldenthal. The transition this time is from Cm to Abm.

BATMAN FOREVER *Elliot Goldenthal*

Fig.18

Batman Forever Main Title theme – Audio 00.012

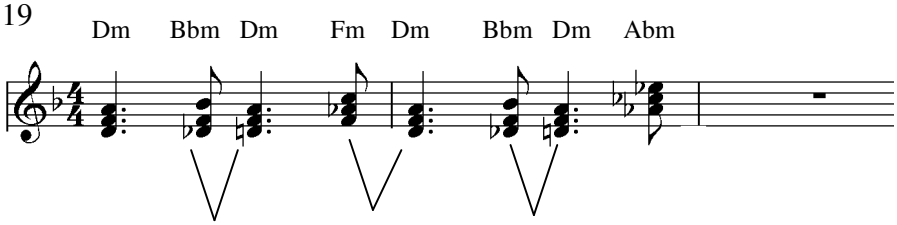


While we're on Batman Forever, it is worth pausing to look at the other great sci-fi chord change in this cue, the A to the Eb. The reason this one works so well isn't just because of the starkness of the Eb being outside the key centre of the A (or vice versa) but because the chords are a #4 apart. When we hear the Eb chord in bar four we remember the A chord which precedes it; we experience the tri-tone manouvre. Another example of the chord trick from fig.15 is in the film *Aliens* (James Horner) in a track entitled 'Going after Newt'.

ALIENS *James Horner*

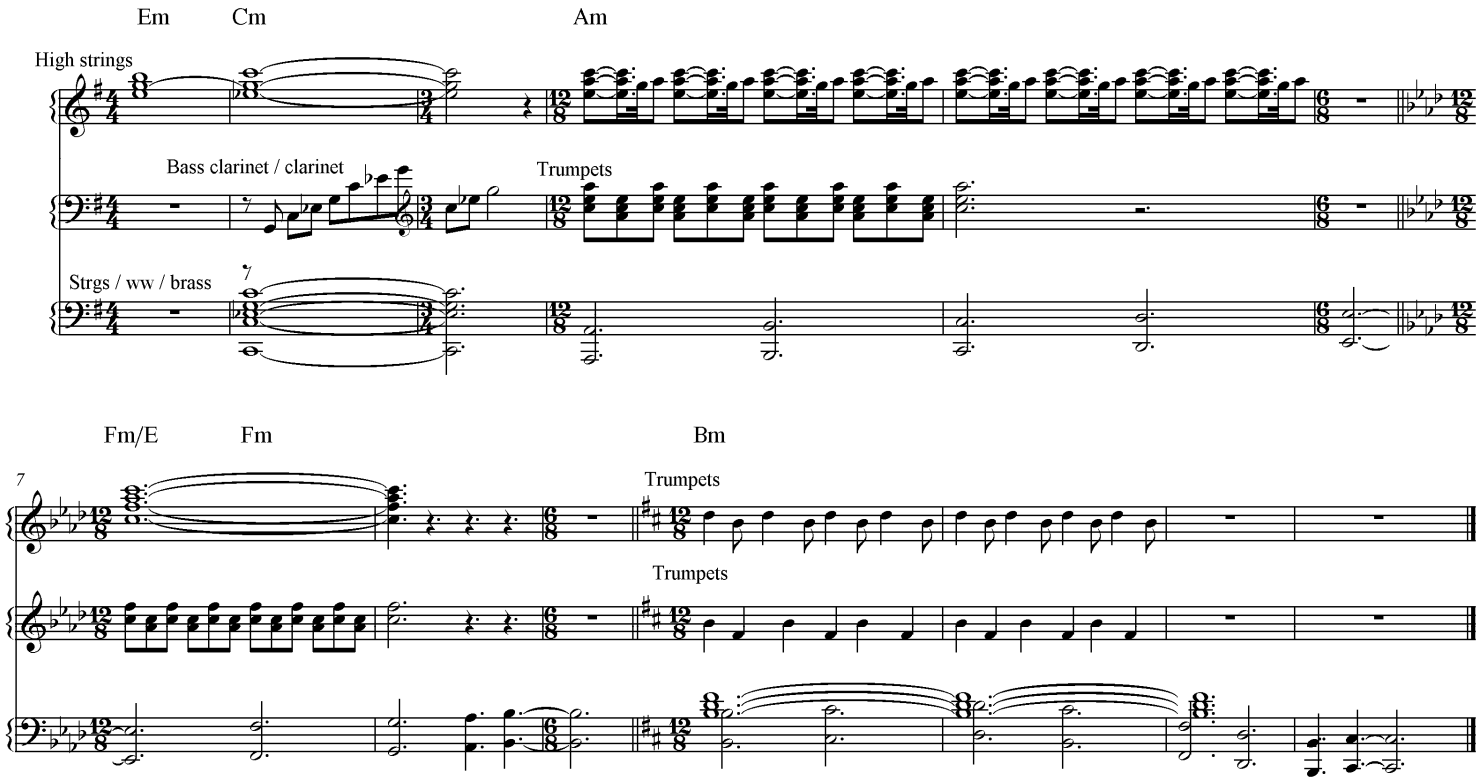
Audio – 'Going after Newt' (from 'Aliens')

Fig.19



Another example from the same film is to be found in a track entitled 'Dark Discovery / Newt's Horror'. As we can see from the transcription below the first chord change is from Em to Cm which is an identical harmonic ratio to fig.15, but the second chord change, instead of being from Cm to Abm, is from Cm to Am, which is a variation on the original chord change but still as effective. The main point is that these types of chord changes involve harmonic movement and shifts into different key centres *but* whilst one note remains common to both, which insures a level of harmonic communication and contact that makes the change effective and disorientating but not alienating. Also within this cue note the wonderful rhythmic interplay between the quaver triplet trumpets (2nd stave) and the subtly rhythmically different strings (top stave). The interplay between the straight quavers (trumpets, middle stave, bar ten) and the more 12/8 oriented phrase also on trumpets in the same bar (top stave).

Fig.20 *Audio – 'Dark Discovery/Newt's Horror' (from 'Aliens')*

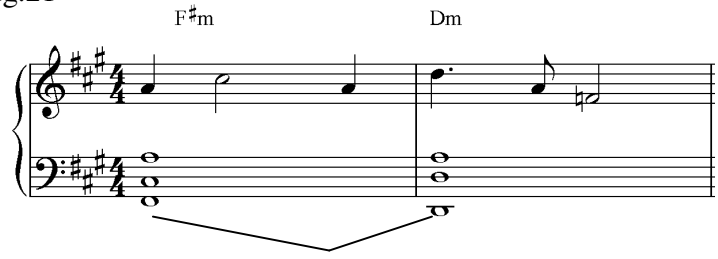


The last example of the chord exchange we looked at first in fig.15 is to be found during the opening scene of *Independence Day* by David Arnold (fig.21). As the camera pans up from the surface of the moon toward the earth we see the first shot of the alien mother ship coming into view.

INDEPENDENCE DAY *David Arnold*

Audio - Main Title 01.42 Movie - 00.02.07

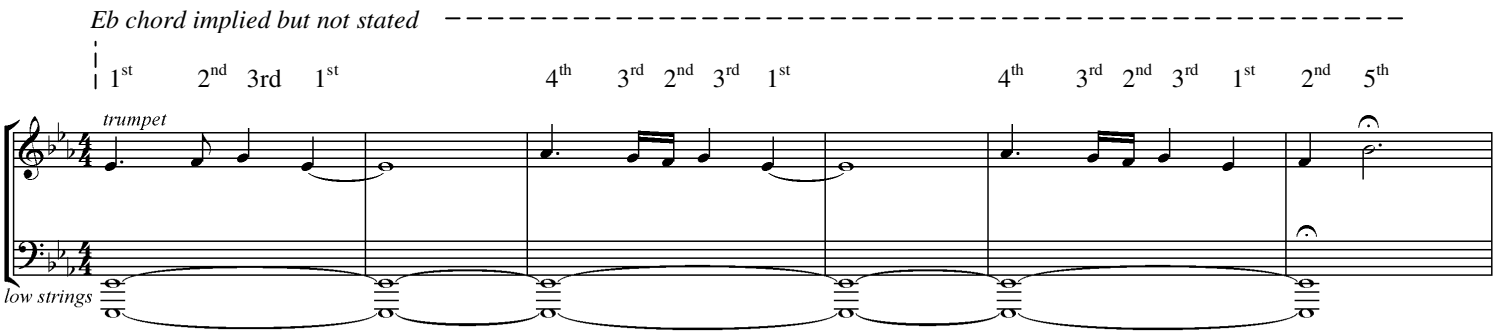
Fig.21



Independence Day is a 1996 science fiction film about an alien invasion of earth; on July 2nd an alien mother-ship enters earth orbit and deploys numerous saucer-shaped crafts over major cities. One of the film's characters, played by Jeff Goldblum, discovers transmissions which turn out to be a countdown to a coordinated attack on earth. As testament to the power of advertising and marketing, *Independence Day* is thought to be the only film where the release date was factored into the film's title. Allegedly the iconic and pivotal president's speech never originally said 'today we celebrate our independence day'. The director wrote the line to ensure its release date could not be tampered with. *Jaws* was set during the July 4th weekend, but 'ID' was the first movie to have it in its title.

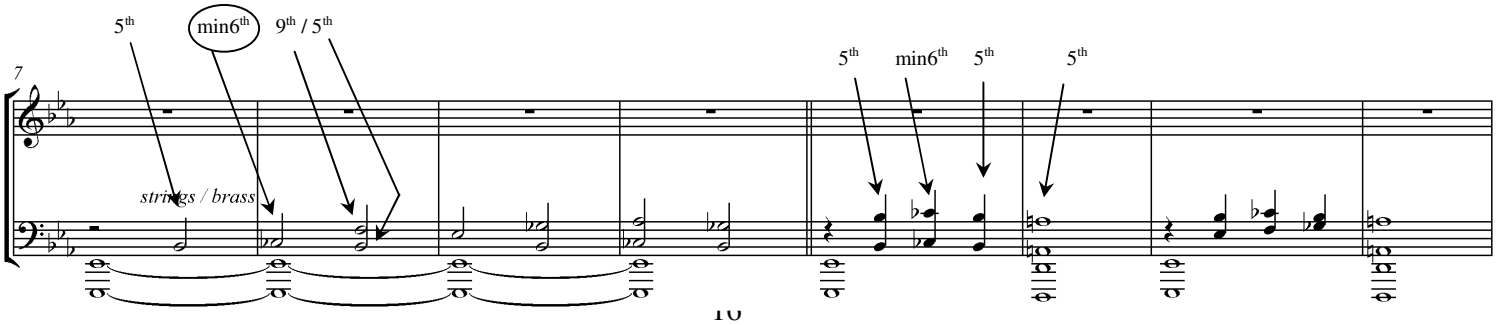
The variously bombastic and romantic score is by *Bond* composer David Arnold, and arguably was one the film's most successful elements. The score encompasses some classic film score devices; firstly its theme makes great use of the solo trumpet, an instrument used time and time again in science fiction movies. Its militaristic context and rich romantic textures reference the twin virtues of heroism and might; surviving against all odds is a central theme of many 'alien invasion' movies. The subtext of many early films of this genre was the portrayal of strength and success in the face of adversity, which was sometimes an antidote to post-war paranoia and anxiety. I say this only because in such cases the music was often the main carrier of this context. The opening solo trumpet theme works to underpin the sense of strength, tradition and determination; the other virtue of the opening theme is that its harmonies are largely inferred and not stated. To portray a strong harmonic character subtly, almost by stealth, is one of the great devices film composers often employ. The harmony is delivered melodically, hence the term 'horizontal harmony'.

Fig.22 *Movie 00.00.44*



The next part of this transcription (below, fig.23) features a much more subtle use of 'harmony by suggestion'. This time the counterpoint describes a minor chord without stating it. When we hear the first couple of bars with its low, slightly menacing strings and brass, it feels like a minor chord even though no minor chord is stated. This happens by virtue of the notes stating intervals found in a minor scale, not a major scale. Of the moving line on the bottom stave in bars one and two the only note which is implicitly *not* part of an Eb major scale is the Cb – the m6 - which implies a minor chord without having to state it, via the power of association, suggestion and memory. The other thing worth mentioning is the interval between the Cb and the next note, the F, which is the filmic #4.

Fig.23 *Movie 00.01.49*

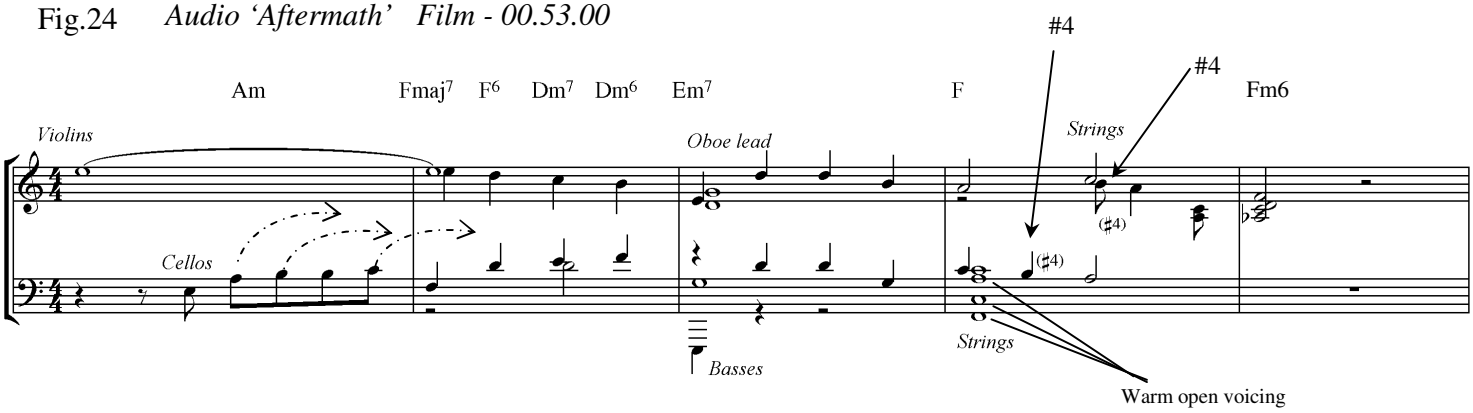


The same thing happens in bars five and six; the min6th of the Eb scale is stated in octaves which gives us a minor chord 'feel' despite there being no min3rd. This aural suggestion, or illusion, leaks over onto the D chord, which also has no 3rd to define it as either major or minor.

The next section from *Independence Day* highlights rich, romantic, warm writing and orchestrating which invokes a feeling of sadness and helplessness and underpins perfectly a sense of desolation. The voicings are sparse; the first beat of bar two (fig.24, below) features a maj7th chord by virtue only of the root (F) and maj7th (E).

Played in isolation, without the bar before, this is stark and bare, but the missing context actually came the bar before by virtue of the violins (E) and particularly the cello line which includes the A and C notes, the memory of which provides the maj 3rd and 5th of the Fmaj7th chord (highlighted with perforated lines). This simple observation serves to highlight once more how, although we *hear* a piece of music in a gradual, linear context (left to right, start to finish and beginning to end) we *listen to* it in much more of a cumulative and aggregate way. The reaction between bits we've already heard and bits we listen to *now* is at the centre of how and why music communicates as it does. Something that, for the sake of argument appeared four bars ago or the bar before can have an impact on something we are listening to *now*. Music is not just about 'now'.

Fig.24 *Audio 'Aftermath' Film - 00.53.00*



As this cue begins we see people on the ground in a motorhome surveying the chaos around them; easily the most effective section of this cue is in bar four, which coincides beautifully with a picture of the President's aeroplane flying in the sunset flanked by fighter jets. On the one hand the F chord display the richness and warmth created by the open voicing of the lower strings, and, on the other hand, the exquisite tension created by the #4 (B) hitting the 5th (C).

The point behind the analysis of *Independence Day* and many other films in this book (and volume 1) is that film music is rarely the imposition of a series of defined, finished, closed-off musical segments which simply bolt onto each other in a linear sequence. Film music evolves in a much more subtle way. It contains hints, intimations and insinuations along the way, some of which might make sense eventually but not always at the time they're heard, almost in the same way a fictional book might work. Sometimes we hear harmonic clues about what is to come. Although chords appear to be individual and defined, closer analysis reveals intimate, subtle relationships between one bar and the next. All of this conspires to deliver music which is subtle, delicate, understated and restrained. I do not mean to necessarily suggest that composers are always aware of such relationships, or indeed that they *ought* to be. Nor do I suggest that to *not* be aware of the structural complexities is a bad thing for a composer. Analysis is, after all, a *subsequent* study. I expose these inner workings because they appear time and time again. They are embedded in what music is.

Musical structure delivers a magnificent and enormous set of possibilities; a maze of options, potential, promises and chances which composers borrow from.

Some of these work in precise ways, which is why composers are drawn to them. Remember, composers are responsible for choosing which chords and lines to use, but they are not literally responsible for the fact that they work; they are responsible for realising and knowing that they work and perhaps using them in a reasonably new context. Ultimately composing is about choice and architecture and assembly.

STAR TREK *Alexander Courage, Jerry Goldsmith, James Horner, Michael Giacchano*

Star Trek is arguably the most successful American science fiction television and movie franchise in the history of moving pictures. The franchise has become a phenomenon and a part of popular culture. The core of the franchise is the original television series, which has spawned numerous successful movies and subsequent television series. Its long musical history has been graced by the work of some of the world's most gifted composers.

Star Trek (original television theme) *Alexander Courage*

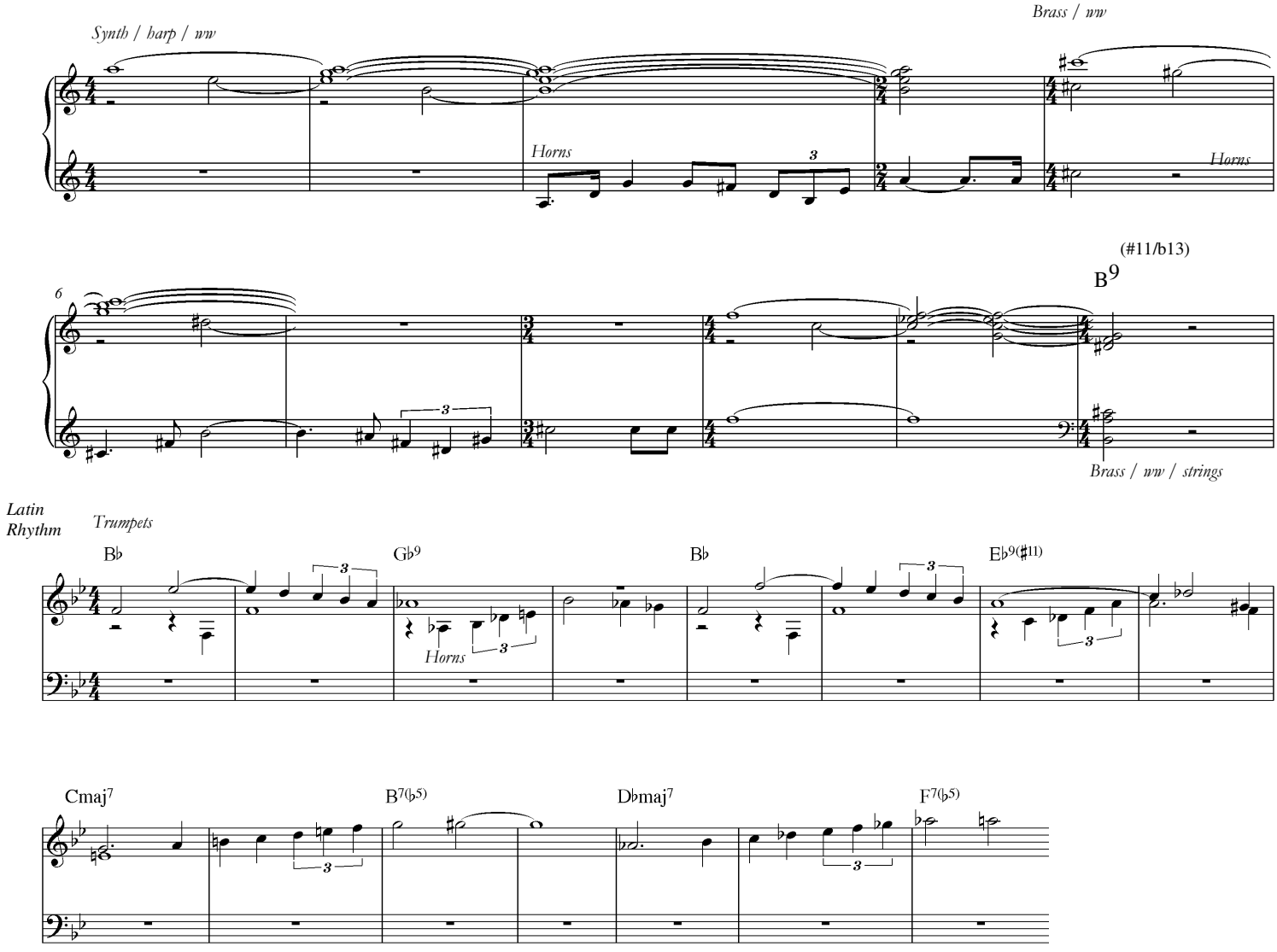
In the beginning there was the original television series, the theme from which was scored by Alexander Courage, a giant of orchestration and indeed perhaps more famous as an orchestrator than as a composer. Elements of his iconic theme from the original *Star Trek* television show have reappeared in most of the subsequent movies which followed, such is its communicative power. The most memorable section of music plays at the opening of the show; a slightly longer version, minus the famous fanfare, plays over the closing credits, overlaid visually with a series of still images from the episode.

One of the reasons the *Star Trek* phenomena his survived is that it was always more than simply a science fiction show set in space. It was always more than the sum of its parts because it allowed viewers to experience it and interpret it in different ways. Moral dilemmas and ethics have always been at the centre of the show. Many have said that in some ways the show's mission, coming as it did from a paranoid post-war society, mirrored the exploits of America and its on-going mission to extend its values beyond its own shores and deal with the new threat of Soviet Russia. *Star Trek* went way beyond 'boldly going where no man has gone before'; beyond its surface level need to entertain and excite, questions of morality and debates over rights and wrongs had always been at the forefront of the episodes. To save money the original series of *Star Trek* made use of 'tracked' music (music written and used in several episodes). Of the 79 episodes broadcast only 31 had dramatic underscores created. The remainder were tracked using music from other episodes. Much though this is seen as an issue by some, in fact it consolidated and compressed the use of the music to an extent where it became easy to remember specific styles of cues and associate them with particular events or types of scenes. The music was as much part of the enduring contextual fabric of the show as the characters and the rather economic 'planetary surface' sets.

When decisions about music are left to composers, we often get the kind of distinctive and memorable music that lives forever. All too often composers have to grapple with temp tracks or other issues and 'suggestions' which, whilst sometimes important and laudable, can cloud their judgement or interfere with their natural conceptualisation skill. For example, director Tim Burton left Danny Elfman free to conceptualise the score for the original 1992 *Batman* movie, resulting in one of the most distinctive styles of composition and orchestration for movie music in decades, one which has been often copied. Indeed the only guidance given to Elfman was to follow *his own* style already established for other Burton films. If Elfman had been given a temp track or advised to emulate another soundtrack, we would have missed his distinctive style. I say this because if, in 1966, as a composer, you'd been given the job of writing a theme for a new science fiction television series, you might have felt compelled to write something overtly 'eerie' or something 'mysterious' or cliched; maybe electronic music or dynamic bombastic orchestral music, perhaps even a 'swashbuckling' approach to mirror the naval 'space ship' narrative. If you had encapsulated and capitalised on other science fiction approaches you might well have been sucked into cliched sci-fi composing. In fairness to Rodenberry, he said to Courage "no space music".

But still, only someone exercising the outermost reaches of his conceptualisation and imagination would have dared to suggest a Latin-influenced piece, and yet that is precisely what Alexander Courage gave us, albeit with some 'spacey' sounds. The theme he wrote has such a strong and communicative melodic presence, with dynamic counterpoint and accompanying chords. The original television series theme has lived on and has reappeared in most of the successful *Star Trek* movies. Latin music was big at the time Courage wrote the theme, so in many ways he was simply tapping into an existing popular style. But in order to put this into sharp focus and contemporary context, it might be the same as being asked to write a television sci-fi theme in Britain in 2012 and suggesting Dubstep as a central style. To imagine to what degree one might be ridiculed for this is to grasp to what degree composers are nowadays forced to write according to rigid formula with more than a nod to pastiche.

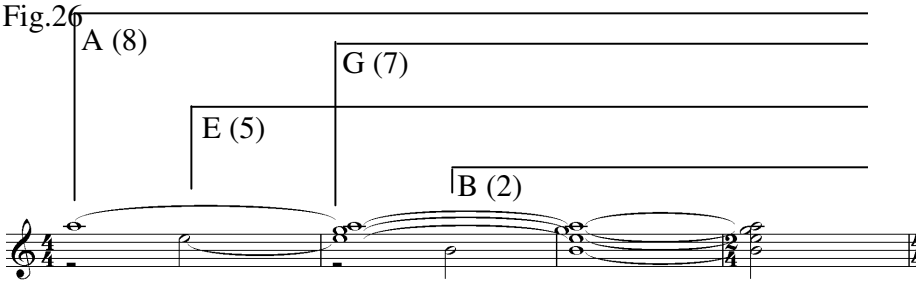
Fig.25 *Audio - Star Trek TV Theme*



Harmonies which imply but don't state

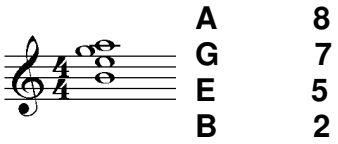
The initial three bars of the theme are interesting and almost transfixing, primarily because they lack the clarity, identity and definition of the 3rd *but* they possess other colourful intervals such as the 7th and 2nd.

Fig.26



The chord is slightly abstract in that the normal harmonic identifiers are missing but the chord has two extensions. The chord is delivered horizontally, so instead of reacting once, to a complete chord, our reaction is gradual.

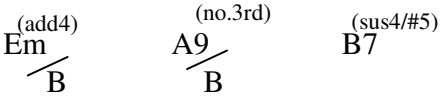
Fig.27



If we transcribe the notes in the first four bars of the *Star Trek* theme (fig.25) as one chord (left) we are perhaps more able to see how the harmonies suggest *two* possible descriptions and chord symbols. This is not just a theoretical debating point, it is key to our aural cognition; chord symbols articulate and rationalise not just an abbreviated description of the harmony – they also reference in what way we rationalise or 'hear' the chord.

Readers and non-readers alike rationalise harmonic groupings in similar ways; this is how harmony manages to communicate a feeling of common meaning to many, irrespective of ability, intellect or aural cognition. We don't need to *know* that the chord is actually a composite of two different chord suggestions (A and Em) in order to benefit from the sound it produces. We hear it even if we don't understand it. We benefit from the abstraction it creates even if we don't *know* we do. Considering all this, there are actually three ways of interpreting the chord above; they are:

Fig.28

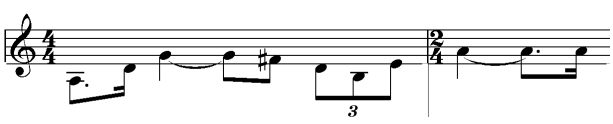


This seemingly abstract and theoretical observation is actually key to how this chord works; the fact that there are three potential different but plausible ways of rationalising it as a chord symbol is precisely why is contains such mesmerising and appealing qualities.

Harmonic contrast and juxtaposition

Looking at the second aspect of the theme (the iconic fanfare, below, fig.29) again we can see and hear how it challenges our normal musical preconceptions and raises the level of excitement. Our preconditioned acceptance of roots, thirds and fifths makes us slightly less receptive toward, and more questioning of, fourths, sixths and seconds. The first two notes (5th and root of the unstated but implied D chord) speak of authority, power and drama (think *Star Wars, Superman*); whereas the 4th, 6th and 9th intervals are what literally make it unique and stand out from the crowd.

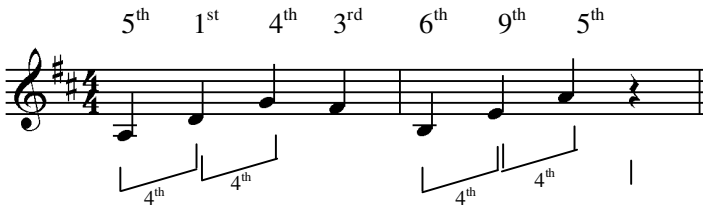
Fig.29



If we isolate the main intervals from the fanfare in fig.29 again (below, fig.30) they are 5th, 1st, 4th, 3rd, 6th, 9th and 5th. The use of the 4th, 9th and 6th in relation to the singular 3rd succeed in slightly blurring the harmonic clarity, flavour and identity of the line

Intervals in context of the unstated D chord

Fig.30

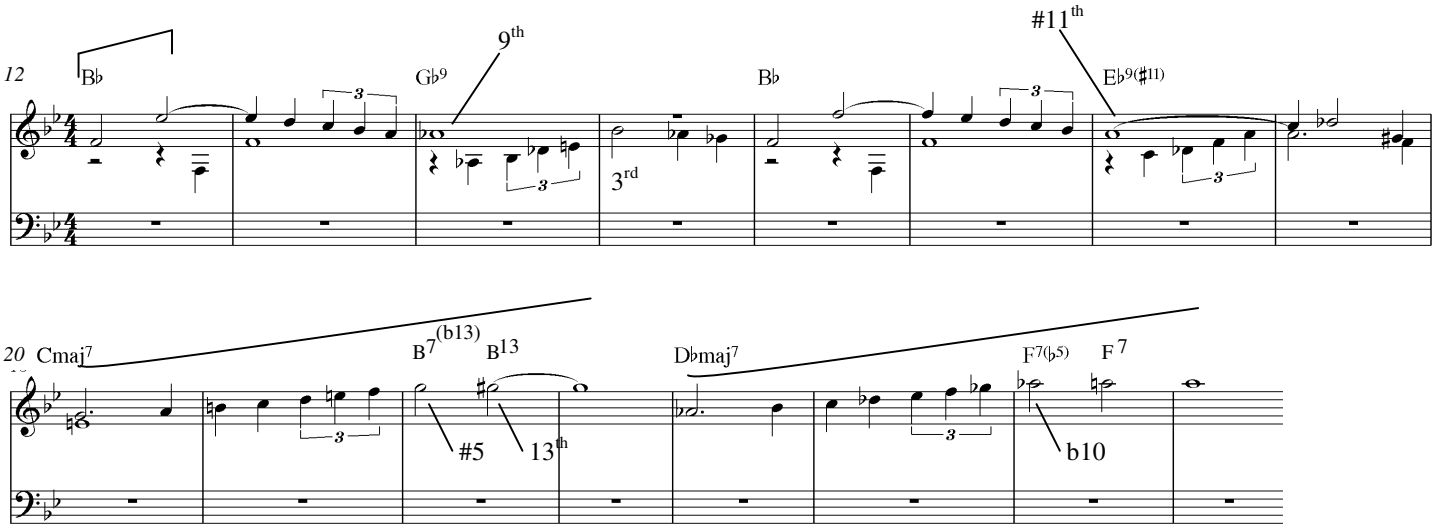


This is further reinforced when we look at the intervallic context of each note in relation to the *next* note. Except for two, these are all fourths. This again makes the intro slightly devoid of the 'safe' harmonic context we normally get. This makes it more noticeable and striking.

The main body of the theme itself (below, fig.31) is littered with noteworthy and interesting harmonic, rhythmic and instrumental dynamics which all conspire to make the piece memorable. The issue as far as we're concerned, as ever, is how does this happen? What characteristics does the piece have that make it distinctive? Instrumentally the use of an operatic-style solo voice is texturally distinctive and draws out the communicative harmonies used in the melody; if we analyse the points at which the theme makes the most impact we see they all revolve around either melodic leaps or odd intervals; such devices penetrate and give the piece a tangible melodic identity. After all, how many pieces do you know that start on a leap of a 7th? Bar one and five both feature leaps; the first leap of a 7th is crucial because it is completely unexpected. We respond to it because it is odd. Whereas an octave is a fairly characterless leap, a 7th possesses real identity. If you play an interval of a 7th to a handful of people, anyone who's ever heard *Star Trek* will reference it immediately. It is one of the only 'tunes' to start with this distinctive leap. This is how composers carve out and sculpture such memorable music.

The longest notes of the melody come in bars fourteen and eighteen of the main transcription, fig.25 (i.e. at the end of each four bar phrase) and on both occasions hit extension intervals (the 9th and the #11th). These melodic aspects lend the piece real colour at crucial strategic structural places in the piece's evolution (see fig.31, below). The second eight bar section (below, from bar twenty) has two effective upward melodic phrases which give the piece a great sense of inevitability; of momentum and purpose. According to interviews this was one of the primary ideas Courage had when designing the piece – that it should have an 'upward momentum'. But again, the tail-end of each phrase has odd intervals - b13th and 13th in bar twenty two and b10 in bar twenty-six. On top of all that we have the rhythmic interplay of the melody, featuring crotchet triplets which juxtapose the semiquaver and quaver oriented frantic Latin rhythm which supports the piece.

Fig.31



Moving on, by examining the brilliant use of counterpoint we can see to what degree this was also crucial to the piece. In interviews Alexander Courage references the influence that songwriter Richard Whiting's song 'Beyond the Blue Horizon' had on him when writing the *Star Trek* theme. The aspect that appealed to Courage was what he called 'a long tune with triple time underneath it'. This encouraged him to create what he called 'a long thing that just keeps going into space'. What he doesn't say is how crucial the counterpoint was in supporting that 'long melody'. If you play the *Star Trek* theme minus its counterpoint, the theme drags and falters when it hits the semibreves. One of the main aspects of the theme that is so captivating is the sense of momentum created by the interplay between melody and counterpoint. Above anything else the original theme from *Star Trek* is a triumph of arranging, no surprise considering Courage is a master of orchestration. Merging the melody and countermelody of this theme effectively gives you a cumulative contour, or the 'long tune' Courage spoke of. The intervals that the counterpoint hits are worth mentioning; in the abbreviated transcription below (fig.32) the melody hits the 9th (Ab) on the third bar of the phrase. The piece would have stopped dead in its tracks were it not for the rhythmic counterpoint underneath but also the fact that the countermelody hits the maj3rd, bringing the piece into focus with it the colour and richness inherent to that most defining of intervals.

Fig.32

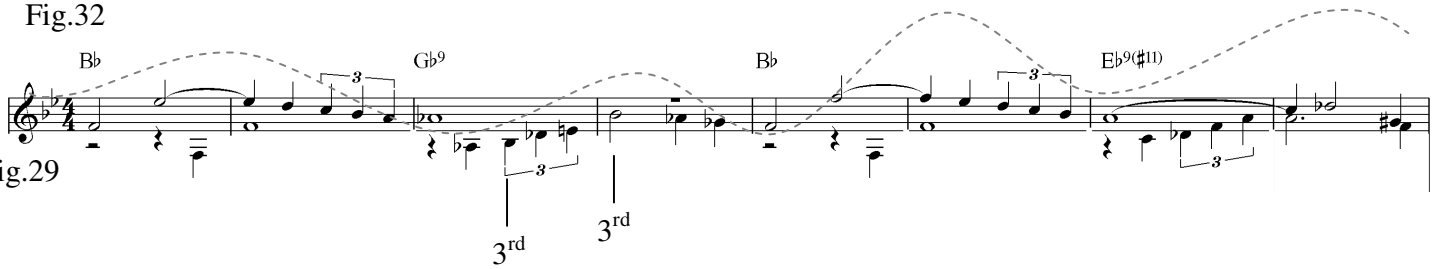


Fig.29

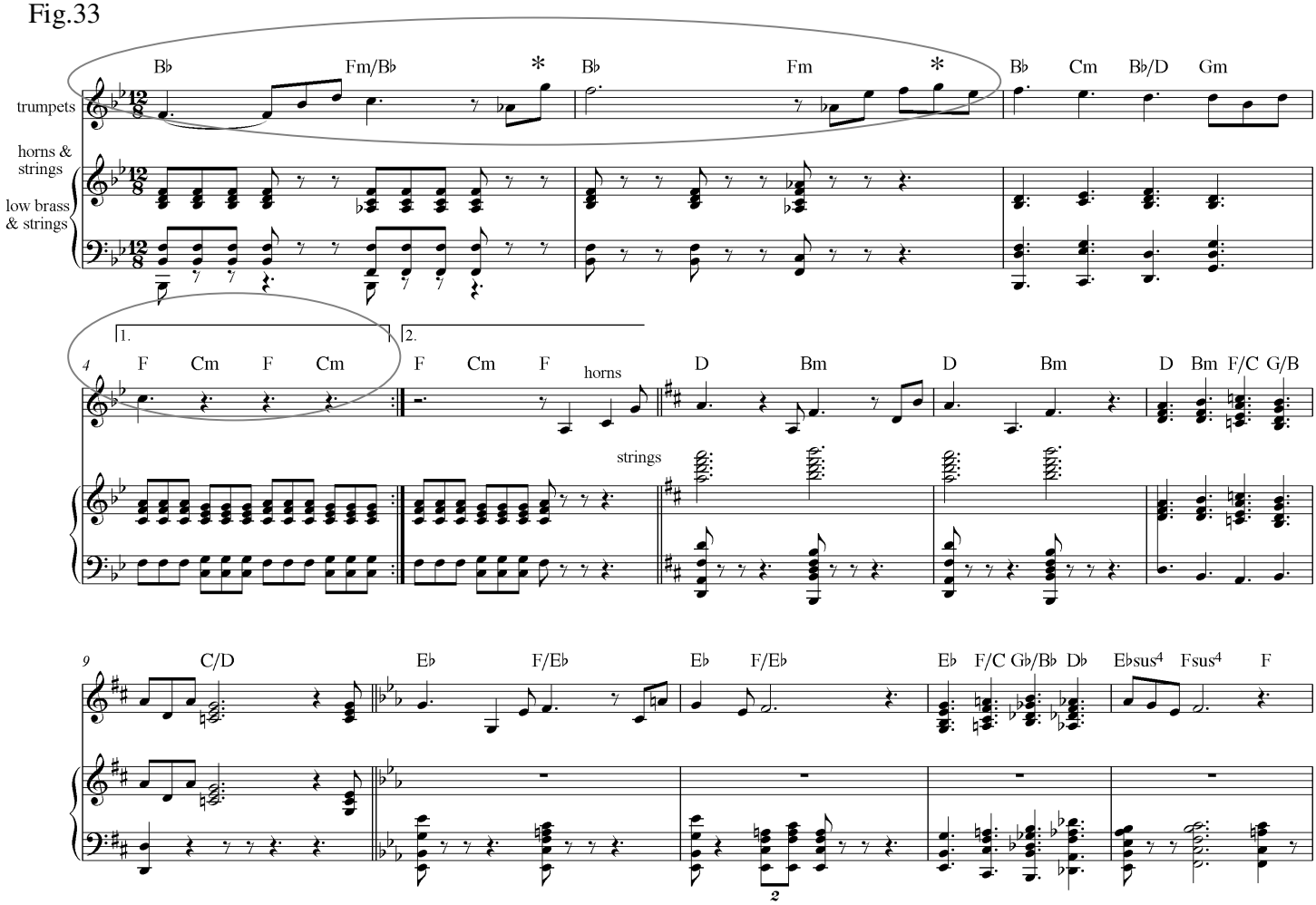
The only questionable aspect of the whole legendary and iconic theme tune is that *Star Trek* creator Gene Roddenberry owns half the royalties. Pressured by Roddenberry, composer Alexander Courage had made a 'handshake deal' that gave Roddenberry the option of composing lyrics for the *Star Trek* theme. Roddenberry exercised that option, writing lyrics and then asserting his right to half the publishing / performance royalties as a co-composer. The lyrics were not seriously intended to be used in the show, as anyone who has ever seen them would acknowledge. They have never been released and indeed their existence is hardly known, but as the 'lyricist', Roddenberry was entitled to an equal share of the royalties whether or not the lyrics were ever used. So every time the estate of Alexander Courage received royalties, as well as his publisher, so does Gene Roddenberry. Courage protested that the whole thing was unethical but to no avail. Roddenberry's lyrics added nothing to the value of the music, have never been heard or used publically and were created for no reason other than to usurp half the composer's performance royalties.

STAR TREK - THE MOTION PICTURE *Jerry Goldsmith*

Star Trek - The Motion Picture is the first film based on the television series. The plot is drawn from an old sci-fi story and revolves around a powerful alien cloud called 'V'Ger', which, as one might imagine, is approaching earth destroying everything in its path. Captain Kirk – now an Admiral –ruffles a few feathers and assumes his old command of the *Enterprise* reuniting his old crew. Perhaps inevitably, he leads it on a mission to save the world. Overall the movie wasn't well received; it could be said that the two good things to come out of it was Goldsmith's grand, sweeping, majestic and romantic score and the certainty that subsequent and better films would be made, as indeed they were.

Audio - STTMP Main theme 00.10

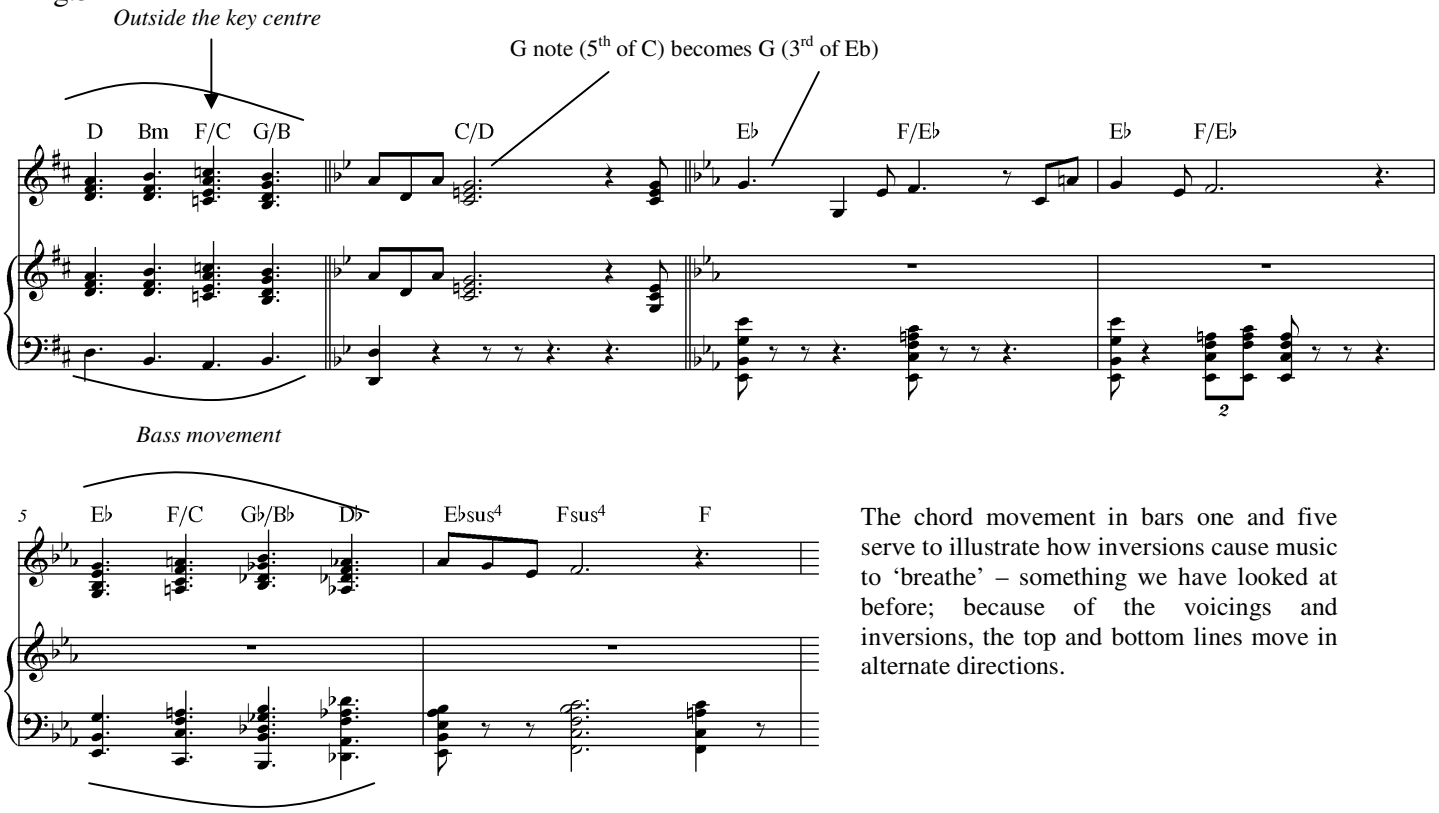
Fig.33



The first thing to note in this striking theme by Goldsmith is its use of the 'sci-fi chord change' (mentioned in the chapter entitled *Music Theory in Action* in Vol.1 and earlier in this chapter too). In the key of Bb this transition is from the chord of Bb to Fm, which happens in the first few bars of the theme. But Goldsmith also squeezes the same type of chord change (but from a different starting chord) in the 1st x and 2nd x bars (Cm to F). Also, certain notes in the melody manage to dramatically cut through the harmony; the G notes in bars one and two (*) cut through by virtue of being not simply the highest note, but also by being the 9th of the Fm chord, an interval that is naturally more exposed than most because of the maj7 interval between *it* and the min 3rd interval of the Fm chord (Ab).

The way Goldsmith navigates rapidly to and from different key centres really helps retain the momentum of this piece. The D chord at the start of bar eight of the original transcription (fig.33) and bar one of the abbreviated version below (fig.34) navigates its way to a C/D (second beat of bar two) via a complicated and disorientating route which involves briefly going outside the key centre. The use of 2nd and 1st inversion chords (F/C and G/B in bar one, below) further acts to harmonically disorientate the listener, but is juxtaposed by the consistent bass movement (D, B, A, B). At the end of bar two a resolution from C/D to G is expected but what we get is a key change to Eb, made smoother by the consistency of the G note in both chords (see fig.34, below).

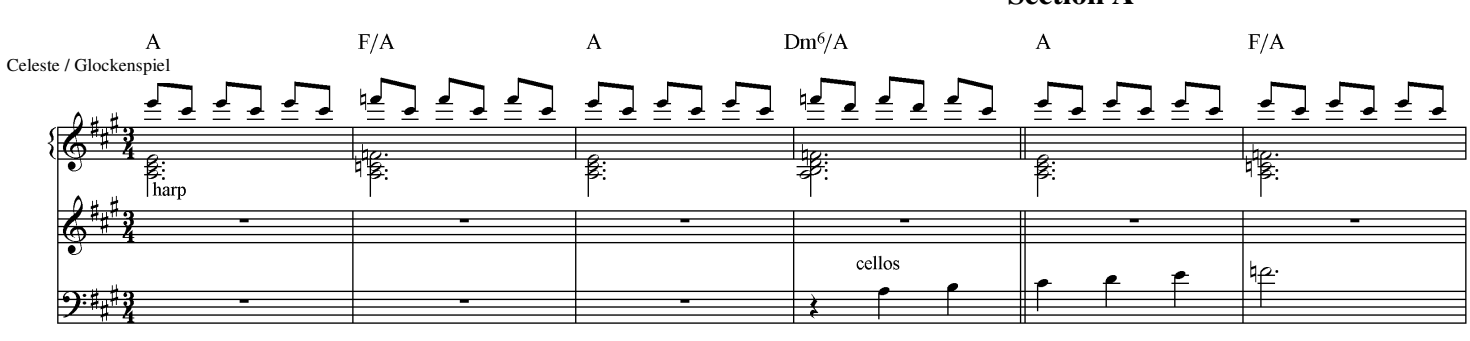
Fig.34

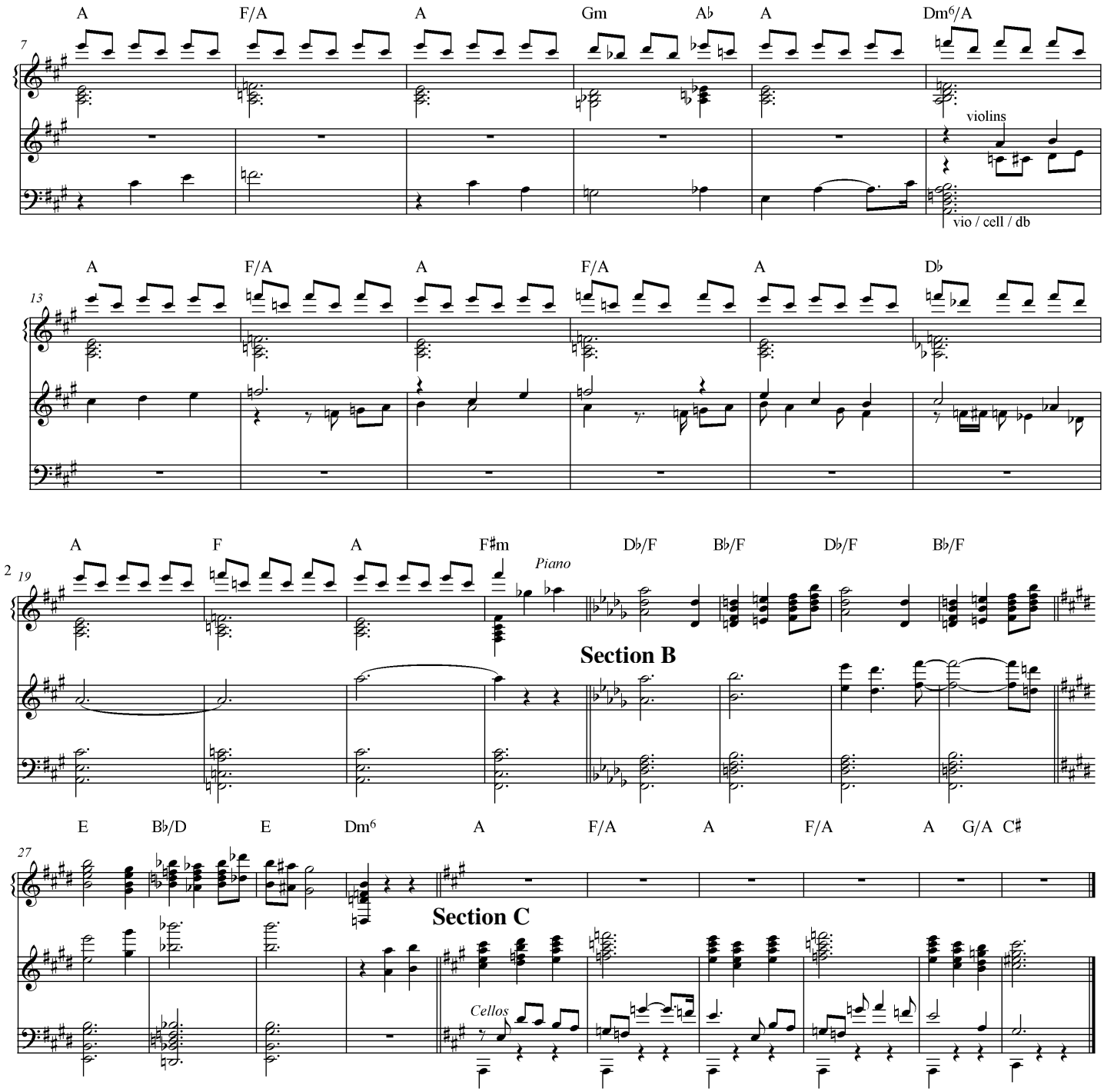


The chord movement in bars one and five serve to illustrate how inversions cause music to 'breathe' – something we have looked at before; because of the voicings and inversions, the top and bottom lines move in alternate directions.

One of the most emotionally communicative pieces in the film is *Ilia's Theme*, named after one of the female characters emotionally involved with the Enterprise's Commander Decker.

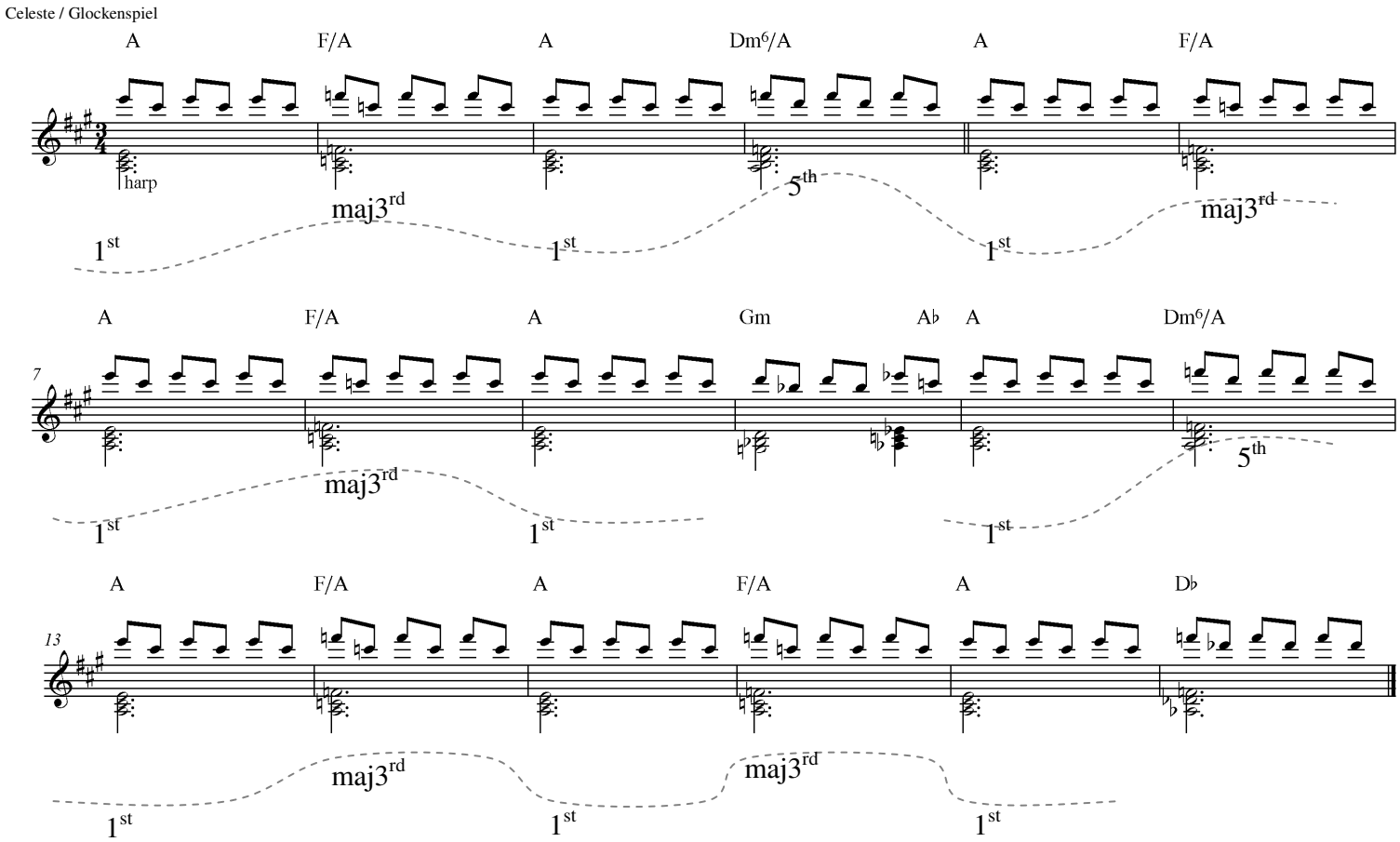
Fig.35 *Audio - Ilia's Theme 00.00.01 Movie*





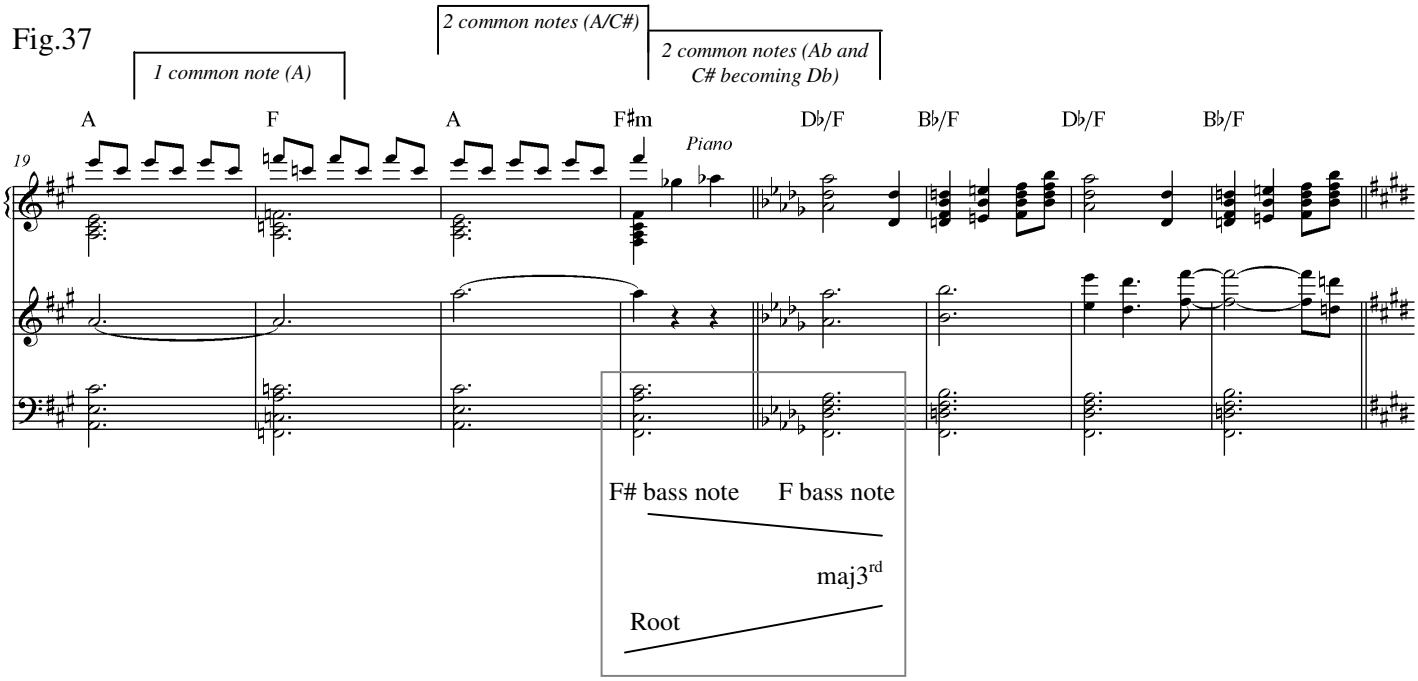
In order to understand how this piece communicates we have to analyse subtle harmonic interactions, choices of instrumentation, specific orchestration technique, effective and dynamic key changes and certain harmonic intervals which work particularly well in context of a science fiction setting. In order to unpick this vastness let us look firstly at the subtle harmonic reaction between the chords Goldsmith uses.
Below is an abbreviated transcription of the first 18 bars, isolating the Celeste / Glockenspiel quaver motif and the chords underneath. When we look and listen to the sequence we would tend, for obvious reasons, to rationalise according to melody and harmony; they are the two dynamics which interact and create colour and identity.

However, analysing the chords in this surface-level way doesn't really get us very far; it simply shows us a sequential group of simple chords which repeat. The reaction between the A chord and the F chord is truly what creates the emotion and romance that defines this piece; if you play the accompanying Harp chords alone you will feel an enchanting and irresistible relationship between the chords. What defines *that* is the changing intervallic context of the A note *within* the A and F chords; a note that doesn't physically move is at the heart of why those two chords work so well. The A note as a 'note' remains constant, but as an interval it changes. We therefore have the slightly mesmerizing and hypnotic feeling of a note remaining the same *but also* simultaneously moving. Underneath each stave I have added a contour which describes the A note with the chord in terms of the interval it represents.



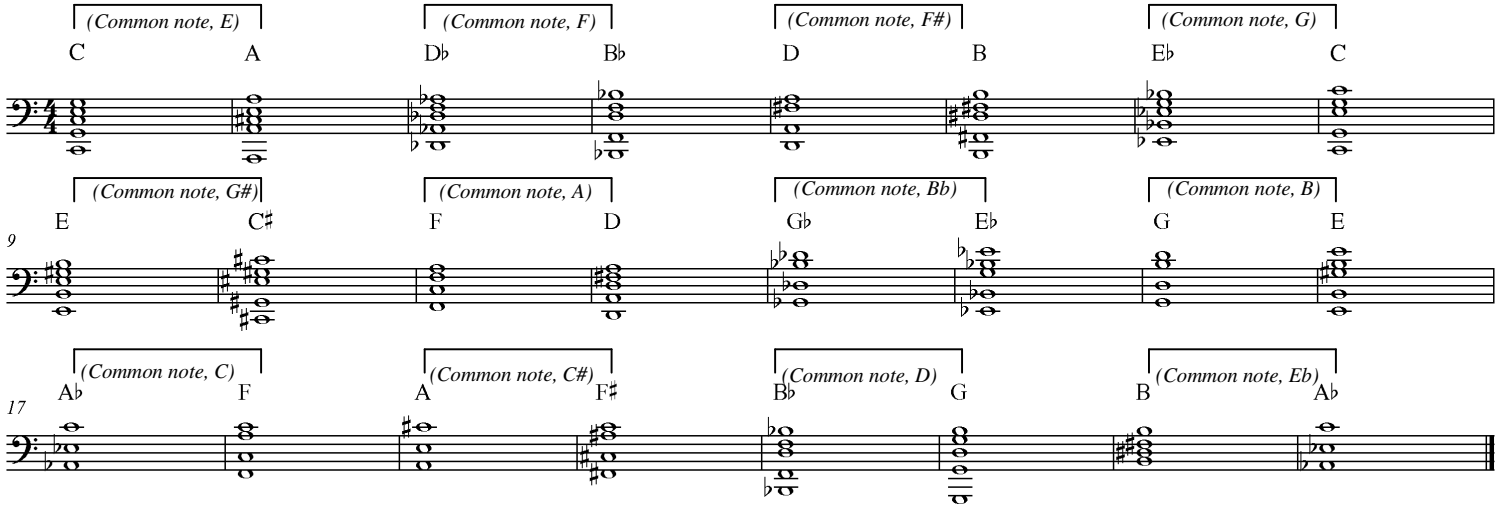
The lilting intervallic movement of the 'A' note is what makes two perfectly ordinary chords, lying outside each other's key centres, work so well together. Another example of subtle harmonic interaction can be found from bar nineteen (of fig.35 and separately transcribed in fig.37) in the section leading up to the key change from A to Db. The chords of A and F share the A note (as we've already established) but as we move closer to the key change the chords share *two* notes (the link between A and F#m) *and* at the crucial key-change point the chords of F#m and Db/F share the Ab and C#/Db. This device of notes having different intervallic contexts is at the heart of the effectiveness and the drama of the key change. The fact that certain notes have two intervallic realities just at the point of the key change is what makes the key change from A to Db seem more natural. Another effective aspect is Goldsmith's use of inversions in the pursuit of more vivid harmonic colour and variation. Beginning the new key of Db on a Db/F may seem innocuous but doing so allows for a smooth bass transition down from the F# to the F. What brings added colour is the fact that although the notes F# and F represent a musical downward slide of a semitone, the *intervals* they state, relative to the chords they appear in, represent an upward slide of a maj3rd. Once again, this is one of the ways music 'breathes'.

Fig.37



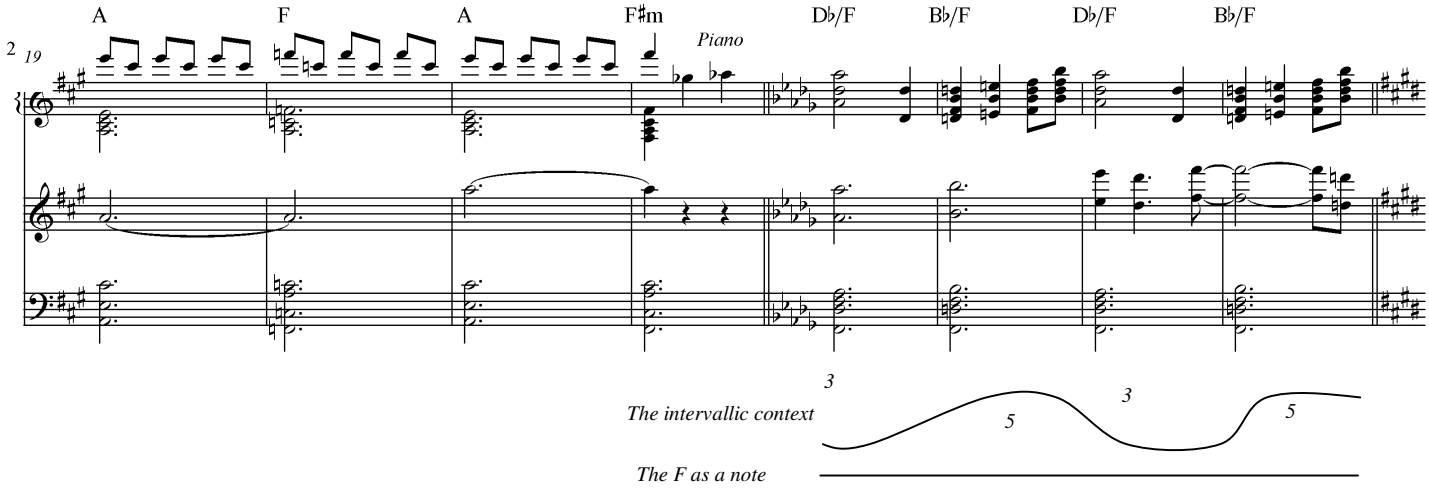
A great two-chord change (and one which, in a sci-fi setting, can create a feeling of wonderment and awe) is where we go from any major chord to another major chord a min3rd below (every possible example is scored out below, fig.38).

Fig.38



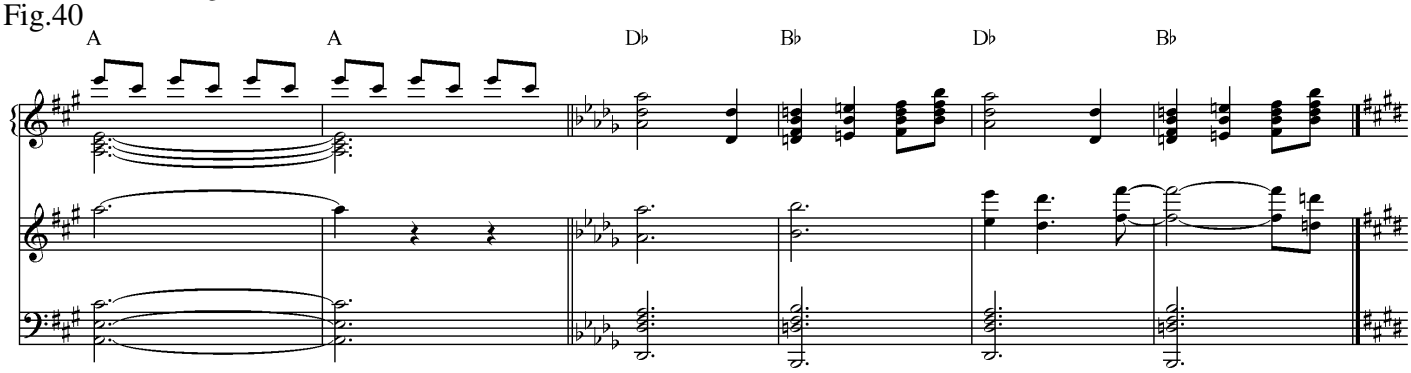
If such chord sequences were voiced using the same kind of root positions it would create a stark, bare parallel feeling, but if we vary the voicing of the root-positioned chords (as in the examples above) the effectiveness of the manouvre (of two chords outside each other's key centre being played consecutively) does begin to seep through. Part of the 'wonderment' element is, as I have stated, buried in the fact that the second chord of each two-chord sequence lies outside the key centre of the *first* chord. *But* if the notes in the first chord were completely different from the notes in the second chord with no notes common to both chords (i.e. C to F# for example) then the result would be much more extreme. The effective aspect of the two-chord sequence is that despite the two different key centres, one 'note' remains constant whilst its intervallic context changes consistently from maj3rd to 5th. Considering all these factors, returning to *Illia's Theme* from *Star Trek - The Motion Picture*, we can see Gerry Goldsmith's use of the type of chord sequence described in Fig.38 from bar five of the abbreviated transcription below (fig.39). The interesting thing in this section is his pedal note of F from bar five to eight; the F is only the note that unifies the chords, and, as we have established already, has a varying intervallic context. Therefore in italicizing the F note by inverting it, Goldsmith highlights the differing intervallic context in which the note exists.

Fig.39



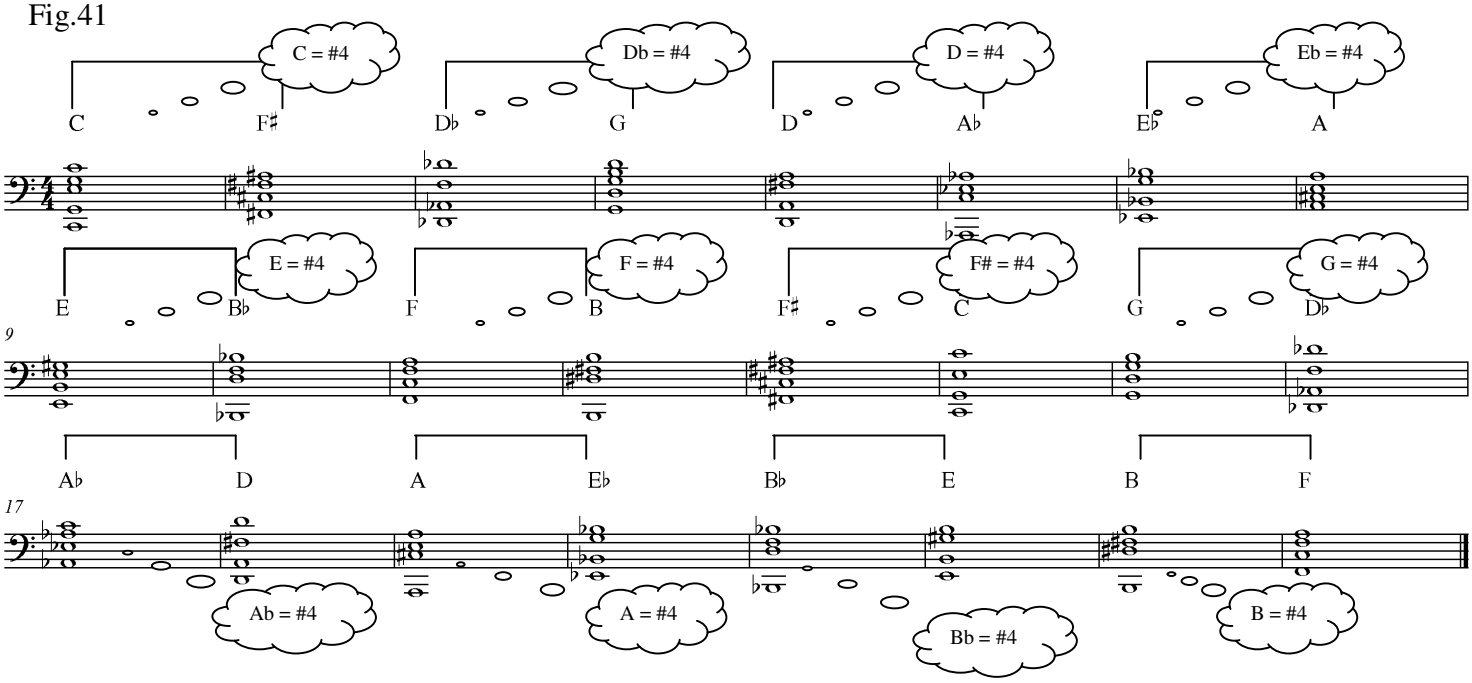
In order to fully grasp the importance and effectiveness of the various, and at times almost imperceptible, harmonic subtleties, below is a 'straight' version of Fig.39 where Goldsmith's deft brushstrokes have been taken out. The move from the key of A to Db still works but lacks the colour created by Goldsmith's passing chord of F#m. Similarly the lack of inversions makes the Db section quite 'square' and extreme sounding.

Fig.40



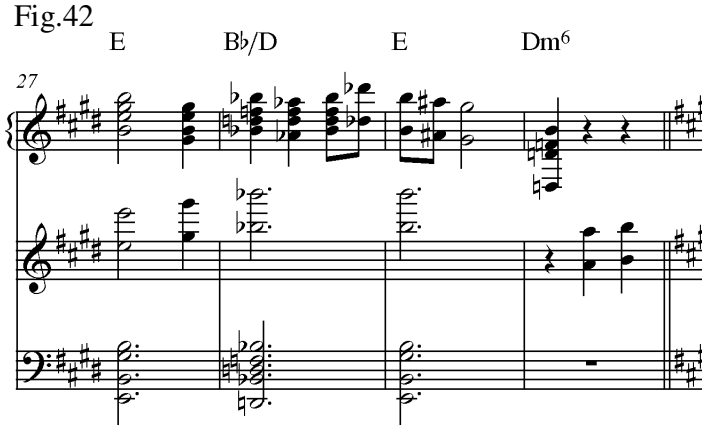
One of the most enduring science fiction chord changes is when a major chord is followed by another major chord either a sharpened 4th down *or* up (i.e. C to F#, Db to G). A full list of every possible example of this is given below (fig.41). Traditionally we hear the #4 most obviously when it appears as an interval in a chord, but another much more subtle way to invoke the #4 is to place two chords next to each other that are themselves a #4 apart. The way we 'hear' the #4 is by virtue of the reaction between the two chords. If we play a C chord followed by an F# chord, when the F# chord hits we hear the 'ghost' of the previous chord; specifically we hear the 'C' root note because this was the most prominent root note *of* the C chord. Hearing the 'ghost' of the previous chord is not something we can switch off or choose not to be influenced by. The point is that when we hear the 'ghost' of the C note in the F# chord, we hear it as a sharpened 4th of the F# chord. Therefore the '#4 feel' is contained within the relationship between two chords, not merely as one interval in a chord.

Fig.41



I say all this because this is precisely how Goldsmith invoked the #4 in bar twenty-seven of *Illia's Theme* (abbreviated below, fig.42). The inversion in bar twenty-eight of the original transcription (bar two of the example below) works both as a tool to enable a smoother bass line and serves to dramatize the Bb chord by altering the harmonic dynamic.

Fig.42



The historical context of orchestration

To presume that composing is an autonomous creative act or event, independent of arrangement, orchestration and production is to completely miss the point that usually composition is a collaborative consummation of different characteristics and features which together create music (even if those collaborative efforts are from the mind of one person). We label the different areas such as composition, arrangement, orchestration and production so as to define what they are, not to pretend that they exist separately in a vacuum, divorced from each other. A composition that works well is one that has been sculptured and structured whole of its 'sound'. Most people would consider the notion of music without sound as fanciful and absurd, and yet a majority of composers (although not a majority of film composers) write their music on a piano or guitar without much regard for what it will eventually 'sound' like. As an orchestrator I have done countless sessions with singer-songwriters who do not conceive a piece whole of its eventual sound. Instead it is constructed inside the restrictive textural box offered by acoustic guitar or piano. If a composer has conceived the idea deliberately for such a simple arrangement, fine, but in so many cases composers simply do not think about the sound or the arrangement, almost as if 'the sound' is something which can simply be added later.

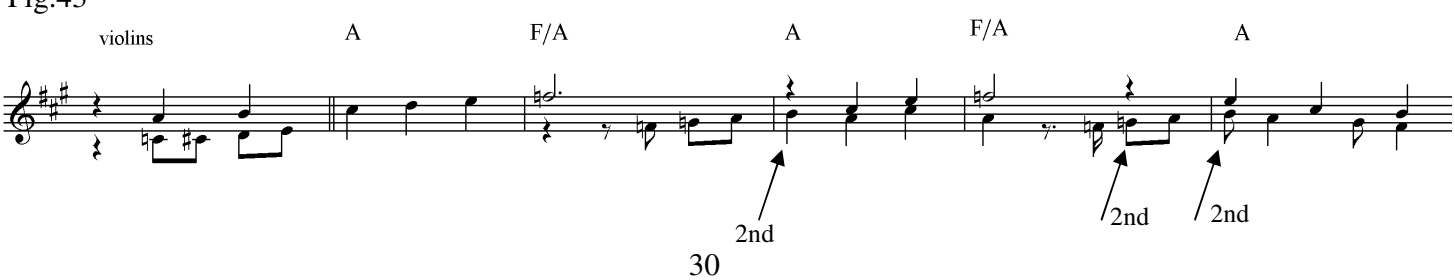
If 'great' film composers share anything that can be rationalised and defined it is that, like classical composers before them, they conceive music whole of its arrangement. Though most film composers historically don't orchestrate, most provide good sketches of what instruments they envisage providing which functions within the score; in this context they therefore function as arrangers. The level to which various skills within the creation of music have splintered into specialist areas might surprise the likes of Beethoven and Mozart, who considered orchestration to be at the centre of composition. For them the thought of giving orchestration over to a professional orchestrator would be absurd. It would seem almost as daft as letting someone decide the harmonies that accompanied their melodies, or vice versa. The various elements of composition were inextricably linked. And much as the notion of trying to compare and judge radically different eras alongside each other might be equally absurd, it remains the case that splitting composition so emphatically into 'composing and arranging' might be seen by some as representing a deskilling of the art of composing and a decline of the integrity of the process. If film composers were split into two sets of skills, one that wrote the harmony and one that wrote the melody, we would consider this odd and probably unworkable. And yet, annexing orchestration from composition seems to most to be completely rational.

How to grow an orchestration

I make the point about composing and arranging being one art as a precursor to analysing the orchestration and instrumental colour present in 'Illia's Theme'. It is an almost perfect example of expert and sensitive arranging being *at one* with the composition. It is hard to envisage someone writing this piece independent of any thought about the instruments that would breathe life into it. Some composers make the mistake of presuming that arranging and orchestration are things that are *done* to music after it is composed. Jerry Goldsmith represents the antithesis of this approach. His choices of instrumentation and specific arranging technique are absolutely key to the success of 'Illia's Theme' and to his music generally. With reference to Fig.35 and the sections headed A, B and C, it's interesting to look at the way Goldsmith 'grows' and evolves the orchestration to add colour and in so doing intensifies and italicizes the emotion of the music. Section A features low/mid cellos carrying the melody with no accompanying counterpoint. Section B (featured separately on one stave below, fig.43) features the melody stated by violins with a rhythmic 2nd violin line underneath.

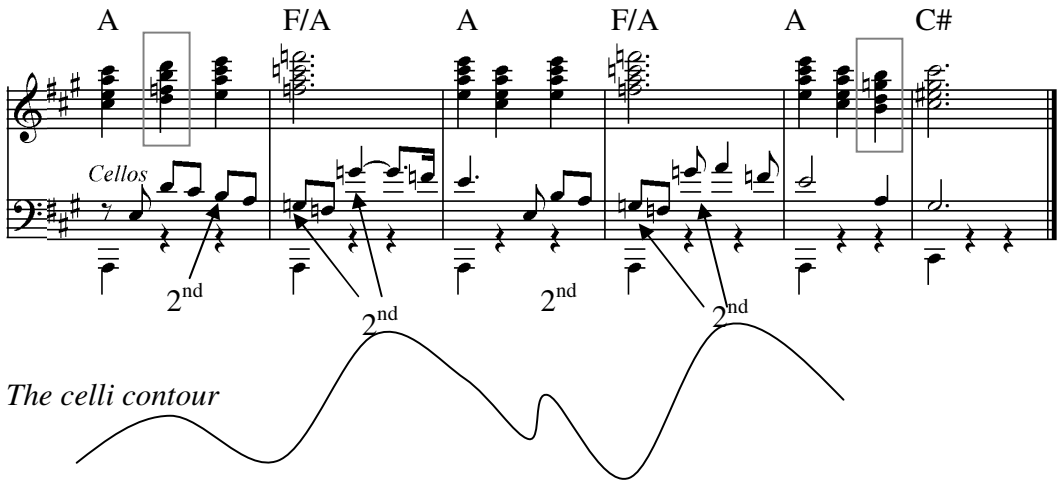
Fig.43

'Section B'



This is interesting because the counterpoint not only offers rhythmic variation; it also develops a unilateral identity by consistently hitting the romantic and effective maj2nd interval several times (highlighted). This adds significant colour and emotion to the counterpoint. Section C (featured separately on two staves below, fig.44) comes after the main melody has been established and stated in sections A and B.

Fig.44 **'Section C'**



It features high strings in close, lush harmony and is supported by a lyrical and dramatic cello counterpoint which, once again, hits the maj2nd interval.

Note also the careful use of passing chords (boxed) which offer a momentary, ephemeral and barely perceptible quality.

STAR TREK – THE WRATH OF KHAN *James Horner*

Star Trek II - The Wrath of Khan was the second movie in what was to become a long-lasting and successful film franchise. It sees the *Starship Enterprise* up against a genetically engineered psychopath named Khan. James Horner provided an excellent score which successfully encapsulated the nautical feel asked for by director Nicholas Meyer, who wanted music that would speak of seafaring. This was James Horner's first major film score; he wrote it in just over a month, providing 72 minutes of music. One of the ways Horner delivers the sense of tradition and history is by using powerful harmonic devices such as the 'Haydn Horn progression'. Below is an example of the progression (fig.45, which revolves around specific intervals).

The first few bars of the beginning of *Star Trek II – The Wrath of Khan* is transcribed in fig.46 where the Haydn progression is used dramatically to evoke history and tradition.

Fig.45

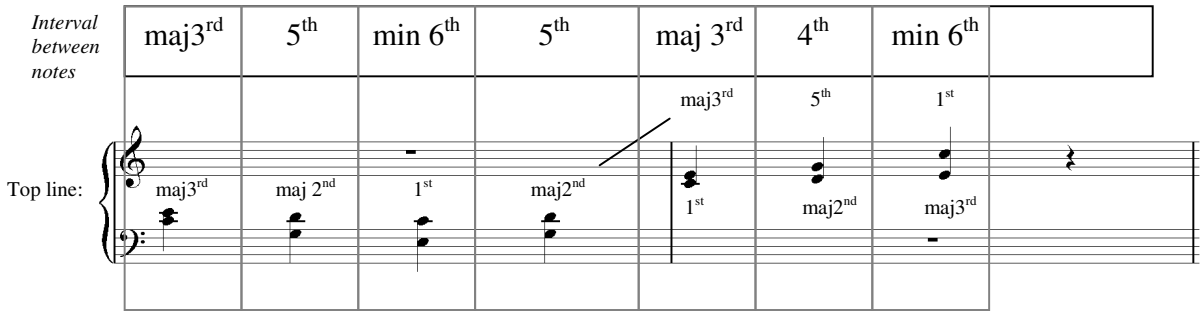
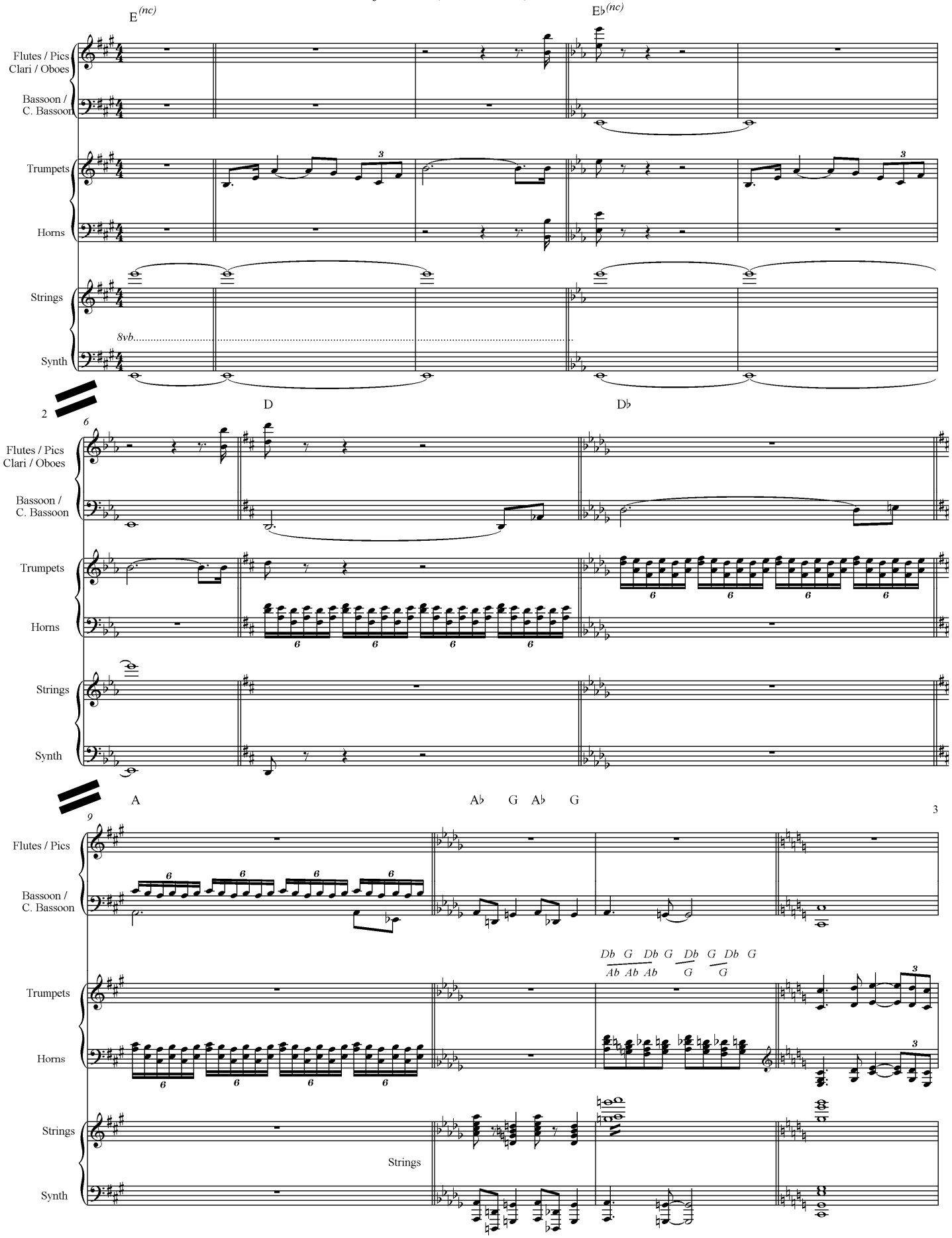


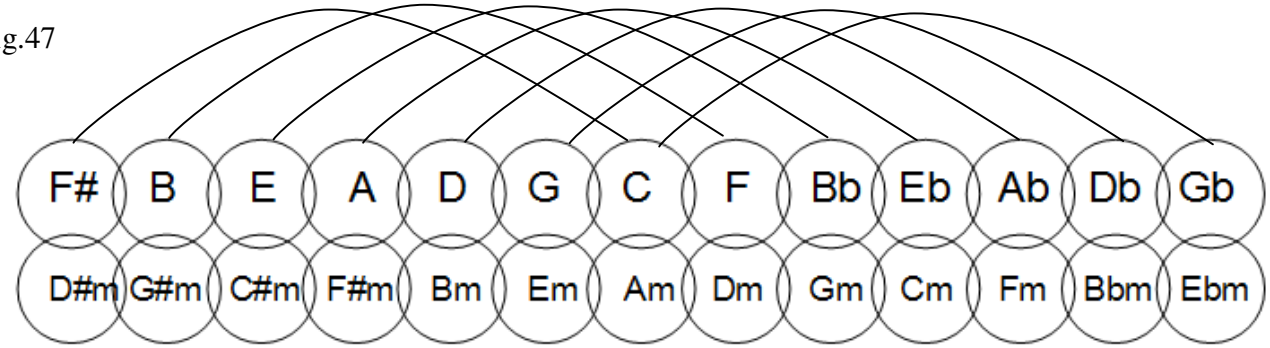
Fig.46 *Audio - Star Trek – The Wrath of Khan (Main title)*



The first few bars opening sequence to STTWOK, even before the main theme itself arrives (on bar twelve) is incredibly effective and communicative, crammed full of musicality, classical tradition, *Star Trek* tradition and emotion. First of all we have the iconic original TV theme from *Star Trek* quoted right at the start; then we have the rousing classical tradition of the 'Haydn Horn Progression' (stated in bars seven, eight and nine). But less obvious aspects are just as important; Horner's use of voicing and inversions is particularly effective. Bar ten contains an Ab to G chord sequence, but this potentially chromatic sounding event is mitigated and dramatized by virtue of the specific [string] voicing of both chords; the Ab is voiced in root position whereas the G chord is voiced (from top down) 5th, 3rd, root, low 5th. This means that although Ab and G as *chords* are only a semitone apart, the intervallic distance between them *seems* bigger, less chromatic and more dramatic and pronounced.

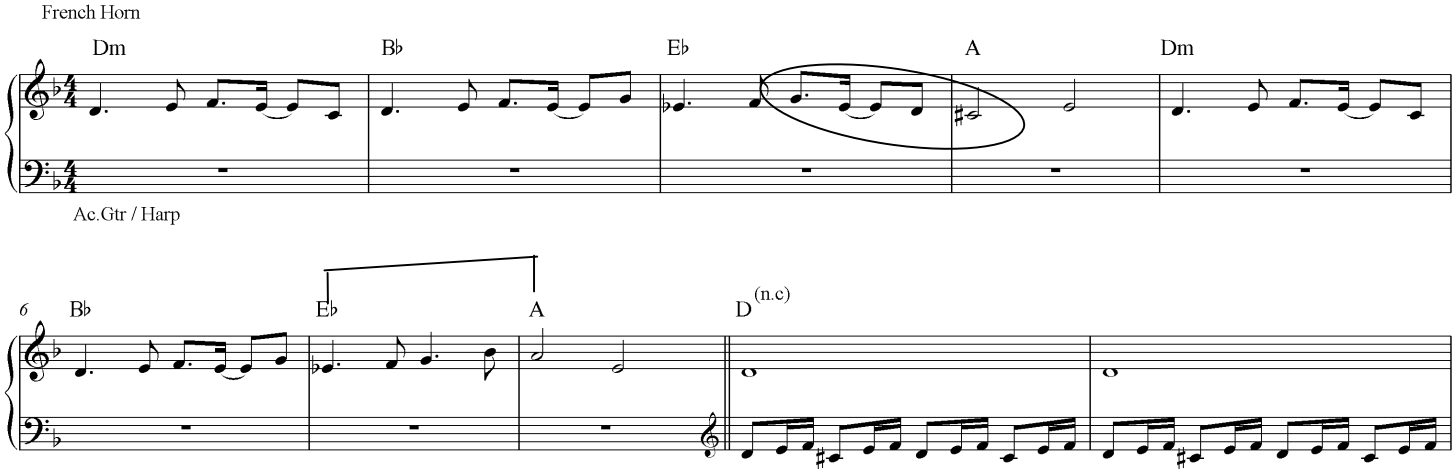
Add to this Horner's bass pattern (Ab-D-G - bar ten) which contains excessive and dramatic movement (specifically a #4 from Ab to D) and we have an outstanding array of dramatic harmony accentuated by great voicing. The horns in bar eleven fluctuate between chords of Db and G but to lessen their movement the Db chord is inverted over the Ab and the G chord is in root position. With the #4 in mind I have restated the well-trodden '#4' chord change I also alluded to in fig.41 which comes time and time again in movies which need harmonies which evoke a specific sci-fi feeling of wonderment, drama and tension.

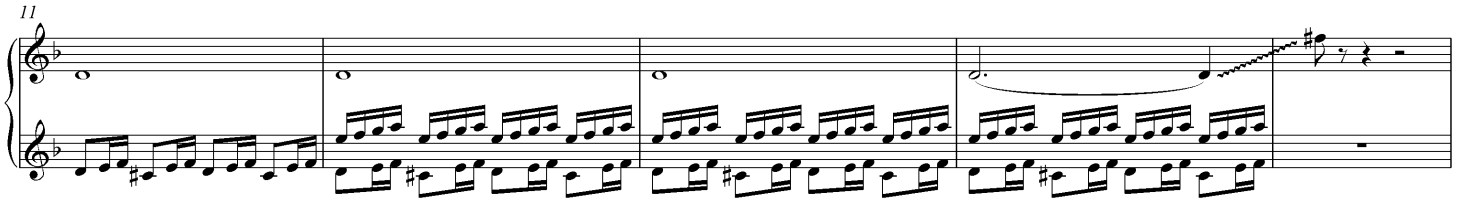
Fig.47



As stated earlier, one of the most effective science fiction chord changes is when any major chord is followed by another major chord either a sharpened 4th (or a tri-tone) down. The way we 'hear' the #4 is by virtue of the reaction between the two chords. As I stated earlier James Horner uses this in bar ten (of fig.46) by virtue of the bass movement, and in bar eleven by virtue of the rapid interchange between Db and G. Horner only slightly alludes to it but the intrinsic and specific characteristics and qualities are still evident. Keeping the #4 in mind let's turn briefly to Michael Giacchano's intro music for the 2009 movie *Star Trek* in which the use of this type of chord trick is much more obvious.

Fig.48 *Audio - Main title – Star Trek (Michael Giacchano)*

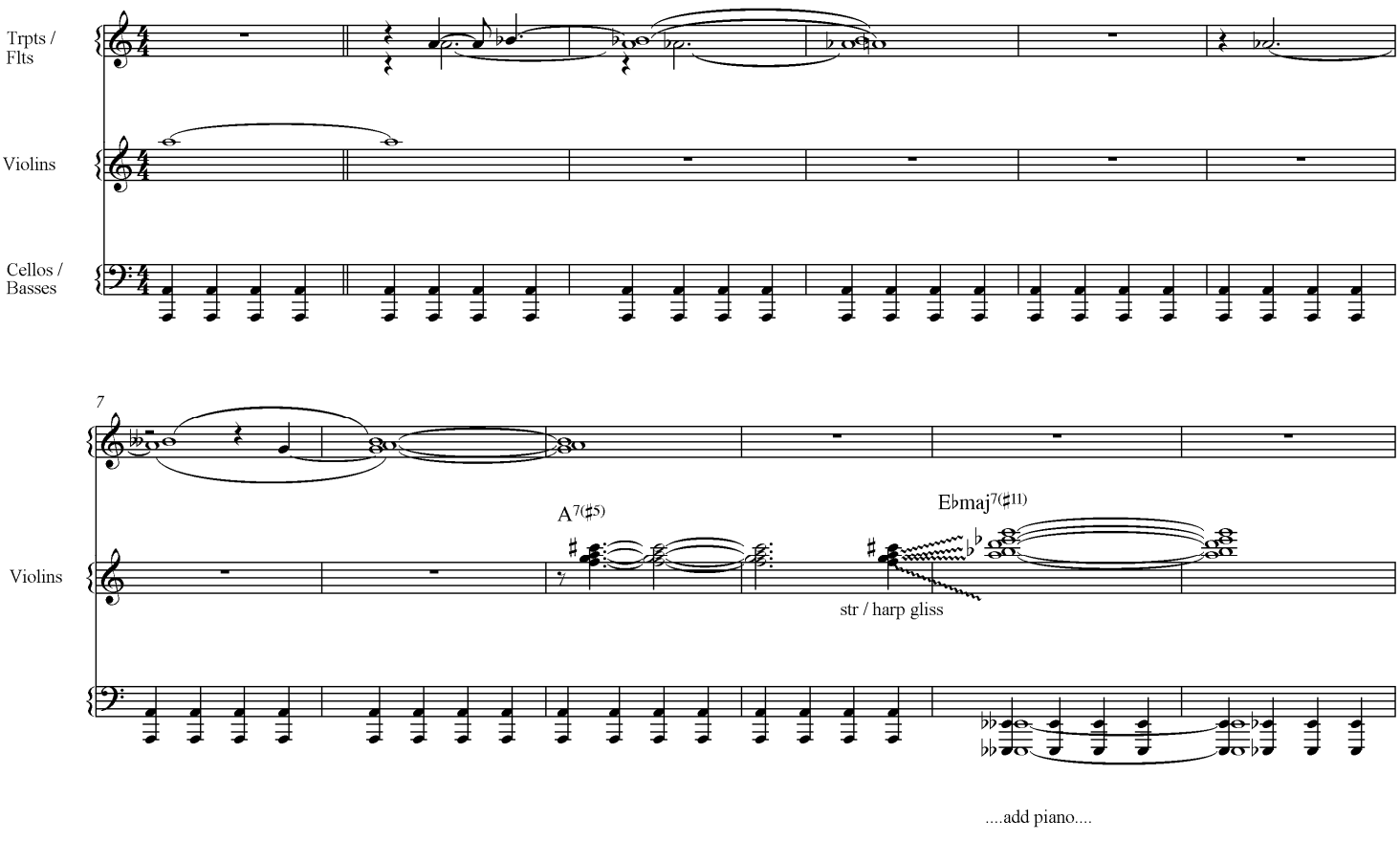




The #4 chord change is much more prevalent in this example because Giacchano's melody draws it out and italicises it; the first time this appears is between bar three-four (Eb to A chord change) when the line hits the major 3rd of the Eb chord (halfway through bar three) and the same interval of the A chord (bar four) making the chords obvious, clear and communicative. The other statement (bars seven-eight) utilises the root of both chords. The enduring musical and harmonic image of this theme is still the #4 transition between the chords of Eb and A.

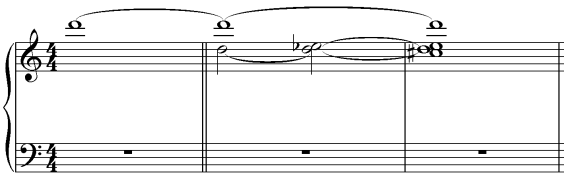
Returning to *Star Trek: The Wrath of Khan*, it's interesting to see another of James Horner's favourite tricks – cluster chords. In this sequence, from a scene 18 minutes into the film and titled 'Khan's Pets' on the expanded soundtrack album, he uses a trademark evolving trumpet cluster on bars two/three and seven/eight; on bar two a single note of A gets augmented by a Bb then an Ab. What began as one note became the centre of a cluster with semitones on either side. The same thing happens in bar seven. The whole time the piece has a menacing low bass motif which runs throughout. The focal point of the scene is in bar ten where Checkov, one of the Enterprise's crew who has been captured on a desolate planet, realises as his captor takes off his mask that the man is none other than Khan, a murdering psychopath who had appeared in one of the television episodes many years ago.

Fig.49 *Audio – 'Khan's Pets' - Film – 00.01.18*



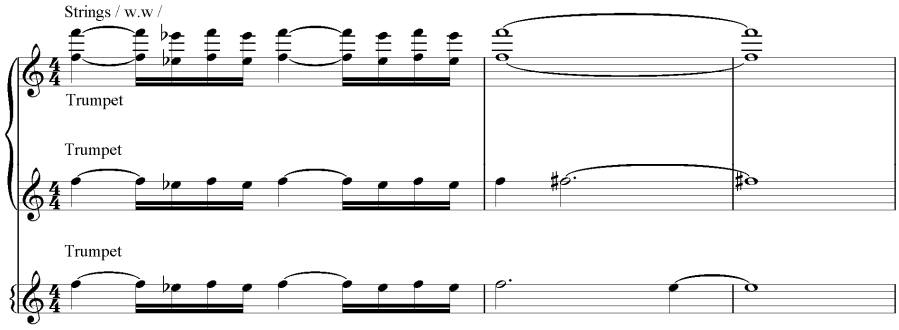
Horner uses the same trademark dissonant effect in a track from the film *Aliens* entitled 'Newt is taken' (below, fig.50) and again in 'Ripley's Rescue' from the same film (fig.51).

Fig.50 *0.46 Newt is taken (from Aliens)*



What makes these kinds of events interesting is not just that they are dissonant; it is the fact that the dissonant harmony comes gradually, horizontally, as each of the notes in the chord appears. The effect this cue has is a product of our desire to categorise and make sense of what we're listening to.

Fig.51 *0.04 Ripley's Rescue (from Aliens)*



The initial note is clear but then it is followed first by a semitone clash and eventually by a three-note clash. Our alienation is gradual, not immediate

The #5, although lacking the Lydian flavour of the #4, does share its tendency for exuding two key centres at once (something I will expand on later) which sometimes creates a sense of 'wonderment'. A great use of the #5 can be found in James Horner's excellent scores for *Star Trek II - The Wrath of Khan* and *Star Trek III - The Search for Spock*. The section below (fig.52) features one of the main themes and displays Horner's legendary soaring melodic figures. However, in the transcription below I have deliberately removed one of its defining characteristics: the accompanying counter-melodic #5 line, which appears in the second example (fig.53). The addition of the #5 delivers the piece straight into the sci-fi genre.

Fig.52 *Audio 03.26 – 'Star Trek III Prologue & Main Title' Film - 00.03.27*

Without 5 line

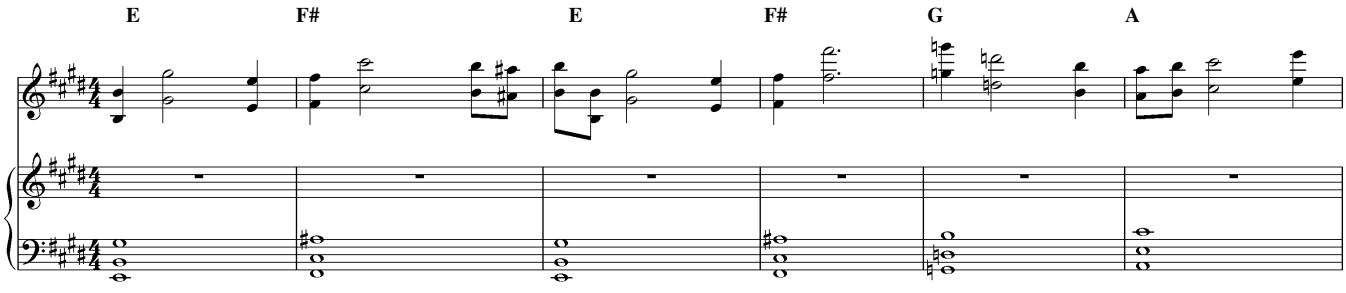
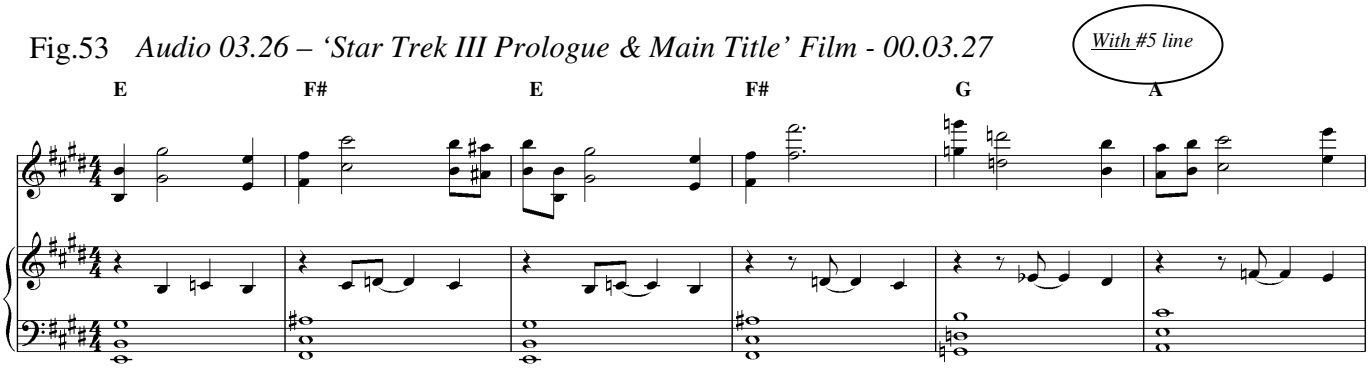
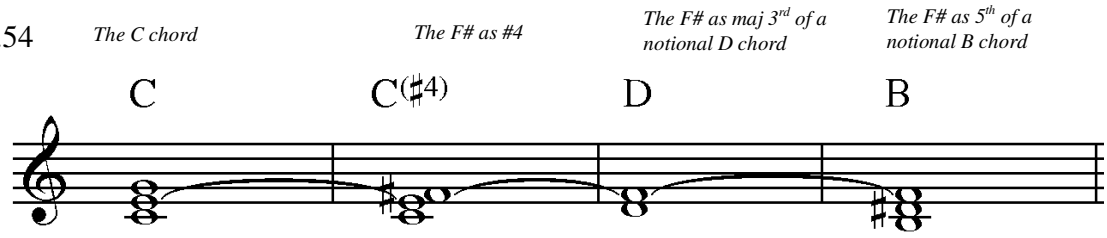


Fig.53 *Audio 03.26 – 'Star Trek III Prologue & Main Title' Film - 00.03.27*



The countermelody, containing the sharpened 5th, is everything. Without this the melody on the top stave is simple but lacking the distinctive counterpoint which contextualises is so well. Why are the #4 and #5 such potent harmonic identifiers? If we replace the 5th of any major chord with a #4th or alternatively with a #5th the chord is still a major chord, albeit skewed, because it has retained the potent and communicative root and maj3rd elements. The #4 and #5 both make the chord sound strange; odd. One reason is because the addition of either the # 4th or a #5th both allude lightly to polyharmony. To look at it in context of a C chord (fig.54, below) the F# (#4) subtly, discreetly and almost imperceptibly suggests a chord of D because the F# *could* be the colourful maj3 in an implied D chord. Also the F# might even suggest, albeit distantly, a chord of B by virtue of being its 5th of that chord. In both of these cases the F# would constitute either a maj3rd (of the D chord) or a 5th (of the B chord). This is possible because the initial oddness of the F# (#4 in context of the original C chord) is what draws attention to it and makes us try and place it in an alternative and more normalised (albeit poly-harmonic) context.

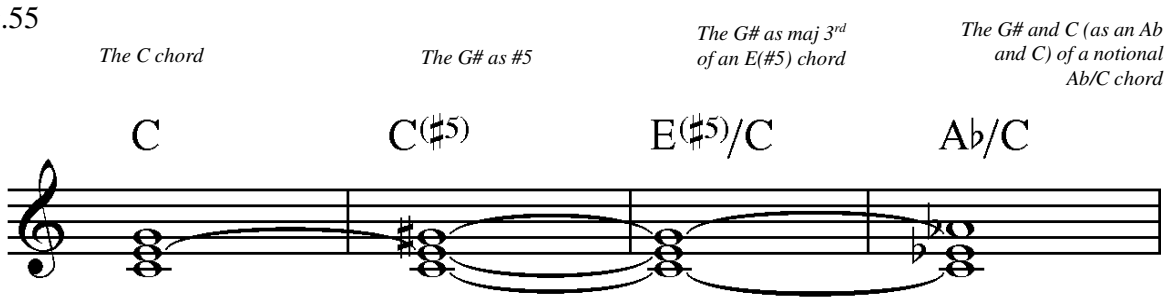
Fig.54



This goes beyond idle theoretical speculation and into the realms of something which can be argued to be one of the reasons the #4 communicates so well and so vividly within a major chord; because by trying to rationalise it and place it, we are offered a polytonal alternative context. The fact that most people hearing these chords would remain happily (and perhaps rightly) oblivious to these facts, does not mean they aren't the beneficiaries of the effects.

Similarly if a C chord has #5th rather than a 5th, because of the difficulties and inherent oddness of the #5 we may attempt to normalise it by placing it in a different context, which allude to polytonality. If you play a C(#5) you get the notes of C, E and G#. If you simply rearranged the same notes you would have a chord of E(#5) e.g. E, G# and C. In addition, the root and #5 of the C(#5) chord can also function theoretically as the maj3rd and octave of an Ab chord.

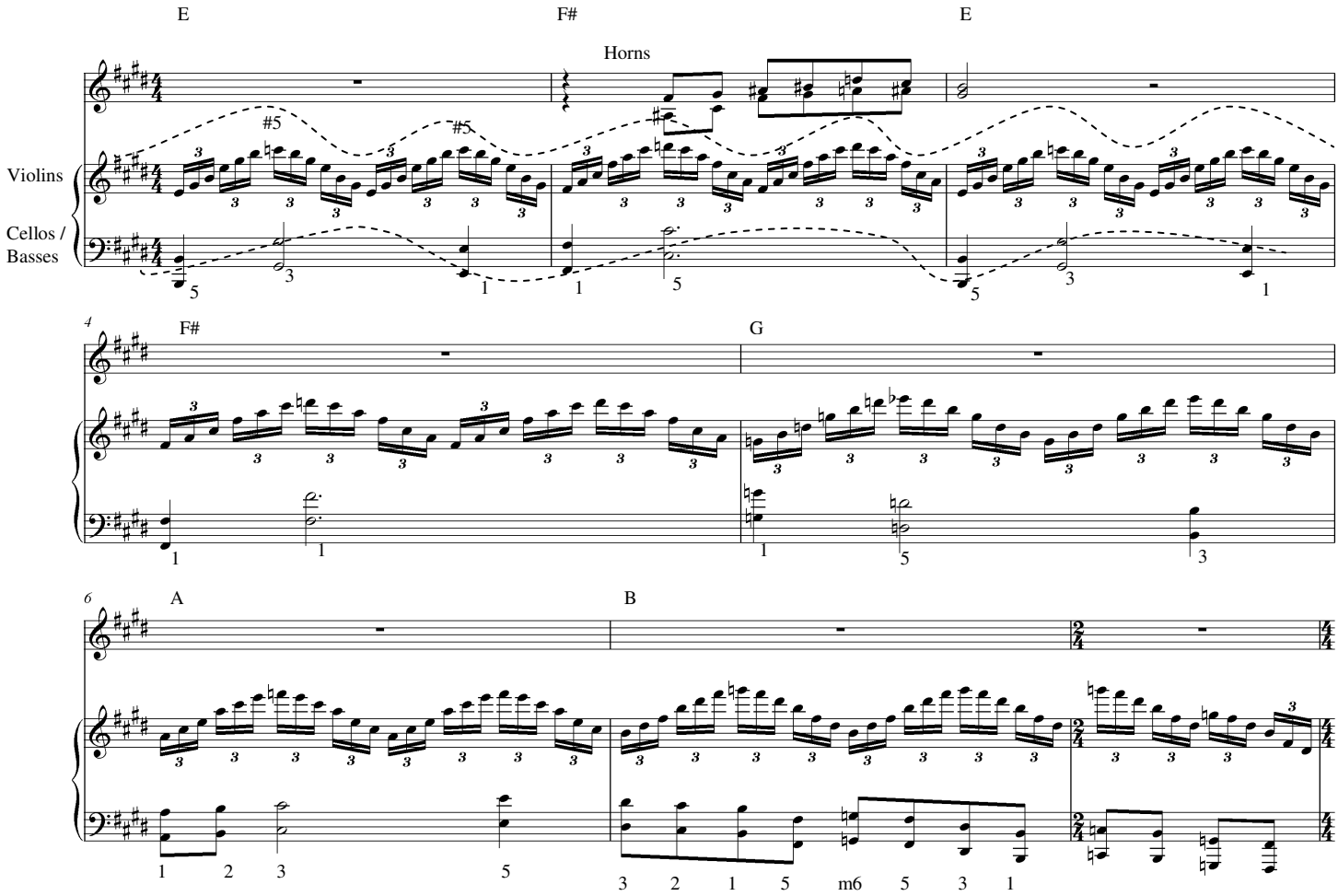
Fig.55



How the colour of orchestration delivers the sound of music.

Looking again at *Star Trek III – The Search for Spock* we can see how Horner has embedded the #5 in the semiquaver triplet accompaniment to the theme (which is carried by the basses and cellos). We can also see how the colour of orchestration delivers the sound of music.

Fig.56 *Audio 03.04 – 'Star Trek III Prologue & Main Title' Film – 00.03.00*

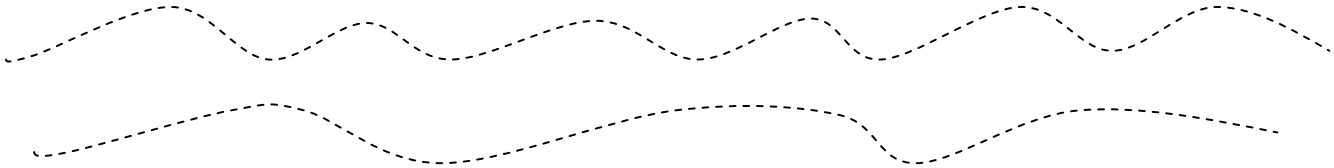


The C is the highest note in the triplet semiquavers in bar one; because of this and because it is a sharpened 5th the note sticks out, which it is designed to do. The same thing happens in every bar; the triplet semiquaver line features the #5 on top of each contour, drawing us to the interval and the colour it contains. The triplet semiquavers are running so fast that it's hard to deduce any meaningful sense of harmony from them; but in a way this doesn't matter because Horner's melody on basses and cellos is of the 'bulletproof' variety we have discussed elsewhere; it is melody which is harmonically self-descriptive; bar one features the 5th, 3rd and 1st intervals (the primary ingredients for a major chord). This happens again in bar three, five, six and seven.

In doing all this, what Horner achieves is a real sense of harmonic colour, none of which is actually stated chordally. All the harmony is horizontal which means the piece, despite the wealth of harmonic information within, has a great sense of space. In addition we can see that in bar two (of fig. 56) Horner provides a kind of 'harmonically twisted' version of the horn progression we discussed earlier.

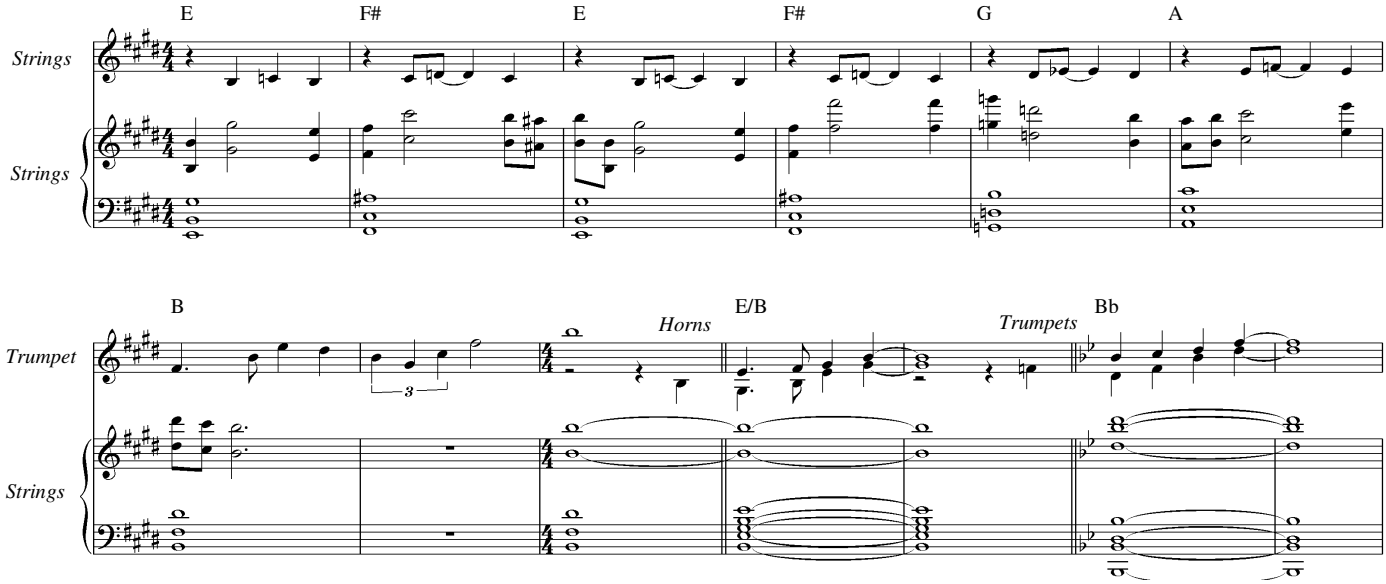
Also, if we look at the two perforated contour lines from fig.56 highlighting melody and counterpoint (featured separately, fig.57) we can see a sense of alternate/contrary motion which helps the piece 'breathe'.

Fig.57



Looking one more time at the intro section from 00.03.27 of the movie, we can see how Horner eventually brings both the original Alexander Courage *Star Trek* fanfare (bar seven) and the Haydn horn progression (bar ten and twelve) back into the piece to give it a sense of tradition and drama.

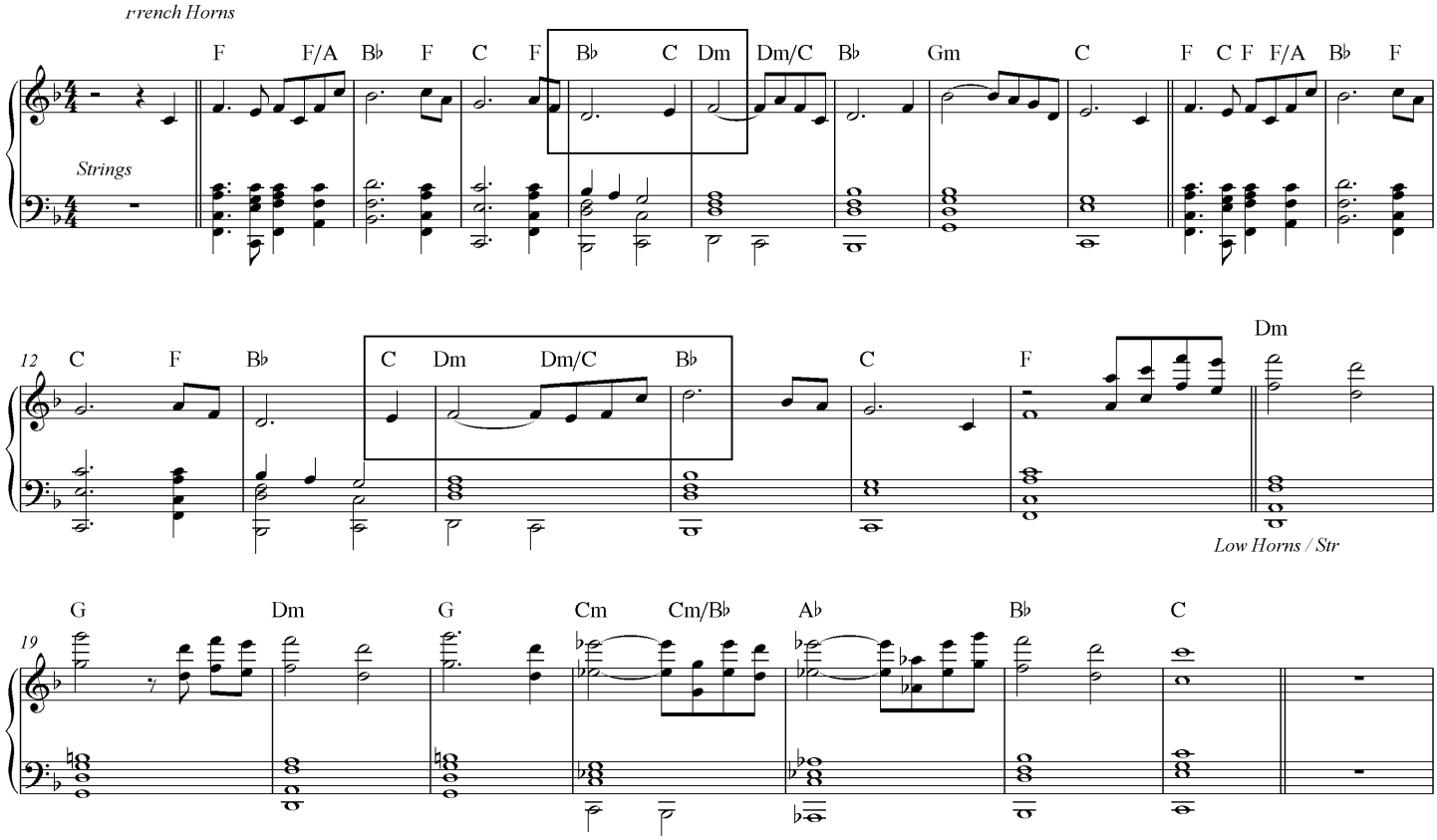
Fig.58 *Audio 03.26 – 'Star Trek III Prologue & Main Title' Film - 00.03.27*



STAR TREK – FIRST CONTACT *Jerry Goldsmith*

Star Trek: First Contact is the eighth *Star Trek* film. In the film's plot, the crew of the USS *Enterprise* travel from the 24th to 21st century to save their future after an alien race called the 'Borg' conquer Earth by going back in time. Jerry Goldsmith returned to the franchise to compose the music for the film and in doing so crafted one of the all-time classic sci-fi film music intros. His lush, strong and beautifully romantic theme plays over the opening credit titles, so there is little in the way of moving image to restrict the access of Goldsmith's fine melody.

Fig.59 *Audio 'Main Title/Locusts' 00.37 – Film 00.00.35*



There are several characteristics which communicate emotion in this piece. Its feeling of serene simplicity is perhaps the biggest obvious feature but there are others; the melody begins on strong intervals (bar two and three – root) but the end of the first phrase (bar five) and beginning of the second phrase (bar six) both feature thirds (boxed) which communicate great warmth and emotion, particularly with the soft textures of the French Horns. Perhaps what truly distinguishes this opening theme from other *Star Trek* themes is that it does not, at first glance, overtly suggest 'outer space'. The theme is played out over the intro credit roll which means it is alone in reflecting the film's narrative. This wonderfully understated, elegant and serene melody alludes to the romance of *Star Trek.*

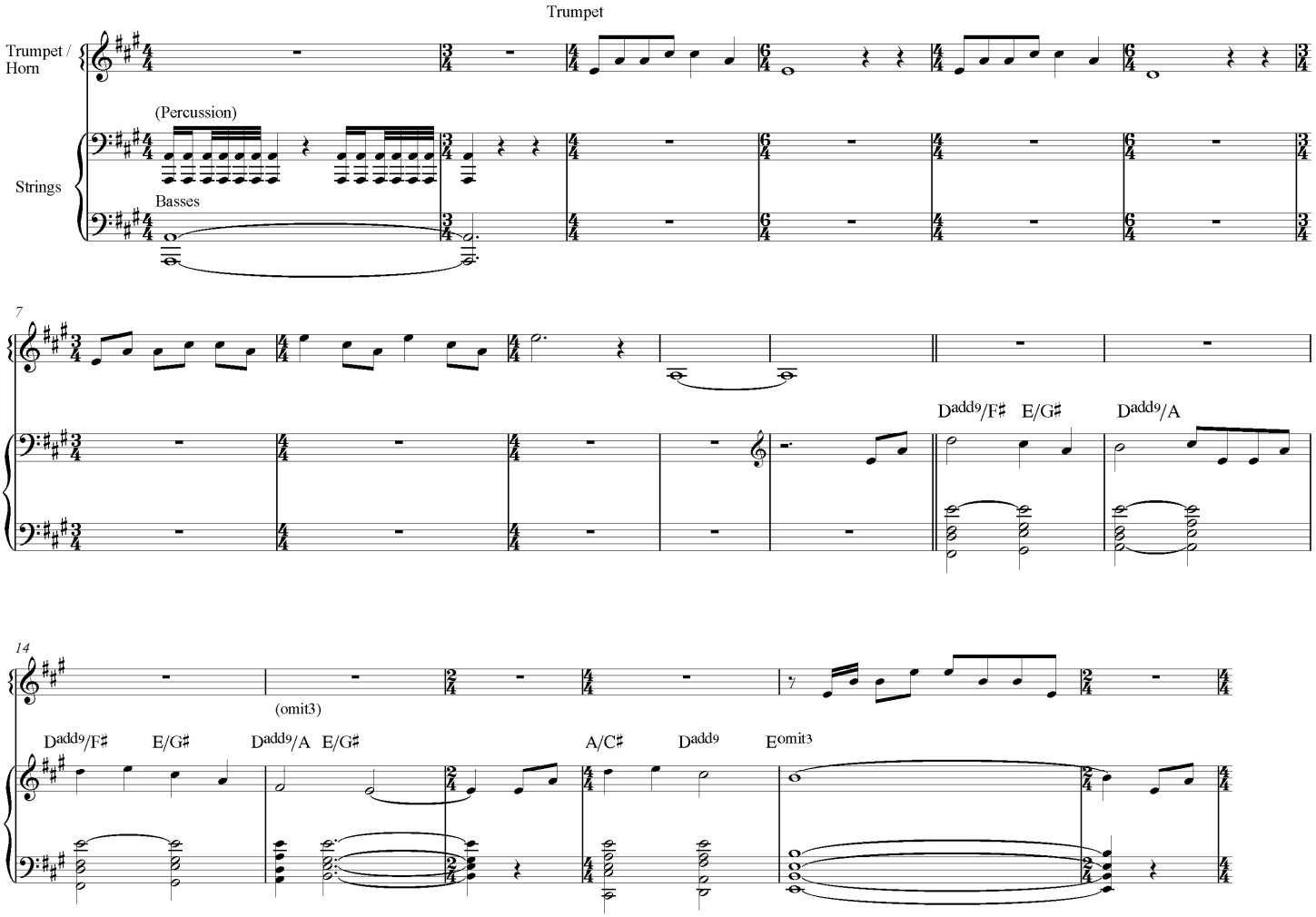
It functions in a similar way to his other great and memorable *Star Trek* piece – 'Illia's Theme' from STTMP. Although the piece is not overtly suggestive of 'space', the second phrase (bar eighteen onwards) begins with and repeats a Dm to G chord change, the classic sci-fi chord change we have discussed at length elsewhere; but this is a much more subtle, mainly due to its placement within the piece as a whole.

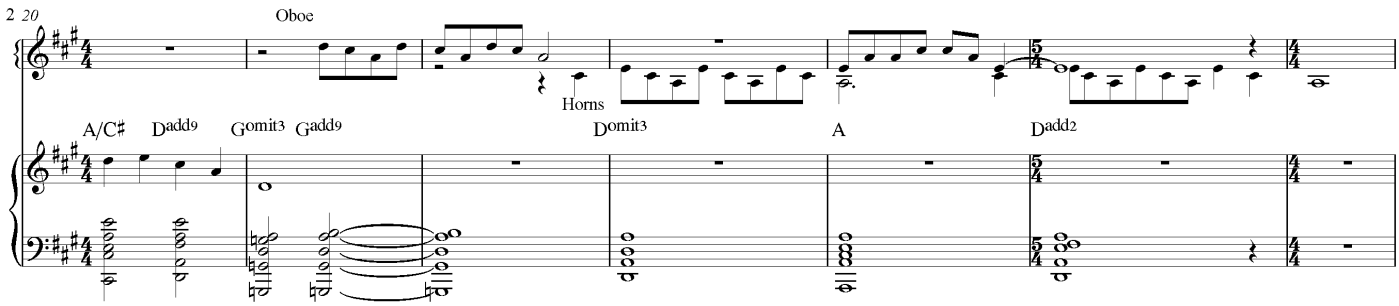
APOLLO 13 *James Horner*

James Horner's score for *Apollo 13* tends towards italicising the romantic, heroic, gallant and courageous elements of the story. Because the film is based on a *true* story, many of the melodramatic and tension-filled harmonies and approaches found in modern science fiction films are sometimes redundant or inappropriate in that they evoke the kind of sentiment normally associated with films dealing with 'outer space', 'aliens' and 'terror'. In film, music is often required to provide a deeper context; the Main Title theme to *Apollo 13* underpins the heroism, bravery, fearlessness, courage and gallantry associated with the story. This is, after all, what the film was about and essentially it is the reason it was made. It is not primarily a 'space movie'. If they'd wanted to do an authentic fact-based movie about Apollo, arguably they would have done Apollo 11. *Apollo 13* is a true story about survival against the odds, set in space. Although it was made to celebrate our technological achievements, it was primarily a vehicle to explain how NASA brought three men safely back to earth following what could have been the worst disaster in space at that time. The film celebrates the triumph of the human spirit; the triumph of success in the face of adversity, how NASA rescued victory from the jaws of defeat.

How do composers convert the wishes and narrative aspirations of the director into actual music; in other words, when we say heroism, bravery and courage, what does this actually mean in terms of music? How do these complex and specific emotions convert into music; into melody, harmony, instrumentation and orchestration? From a purely 'sound' perspective, Horner's music draws on clear textural appropriations; trumpet and snare, both of which evoke a clear sense military traditionalism. The other, equally big issue is how the music Horner *writes* for the traditional sounds, itself exudes that sense of traditionalism.

Fig.60 *Audio - Apollo 13 Main Title Theme Film 00.00.01*

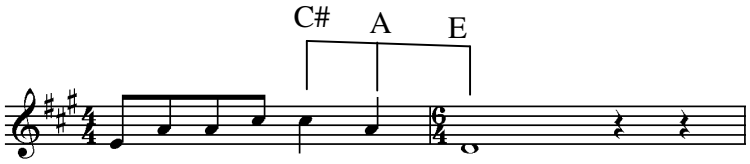




The initial solo trumpet alludes clearly to a military 'bugle call' and in doing so appropriates the symbolism associated with heroism. There are, however, softer, more subtle harmonically 'filmic' events which shape our perception of how the 'militarism' is articulated and interpreted. In other words, naked, raw symbolism rarely works subtly in a film music environment unless it has clear touches of the kind of soft harmonic tensions associated with *film* music. Frequently it needs to be toned-down or 'filmed-up' and usually this is done with harmony.

Looking first at the last two crotchets of bar five of fig.60, leading into the first note of bar six, we see the notes C#, A and D.

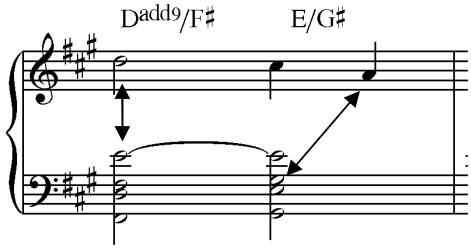
Fig.61



In context of what we 'expect', the D sounds the 'wrong note' for this phrase to go to. This is one way we can 'film it up'. It sounds odd because if we hear the C# and A as maj3rd and 1st of an A chord (which is how we are 'fed' the notes by virtue of the phrase) the D doesn't fit. We expect an E to complete the military association. Even if we hear the C# and A as maj7th and 5th of a D chord they still lack the maj3rd (F#) which makes the line sound stark. Non-musicians / non-readers will be aware of the slight tensions in this line. The lack of understanding as to 'why' or 'how' this happens doesn't prevent audiences from being beneficiaries of an effect they don't understand but still hear. I say this because there is a natural tendency to presume that the only people who would benefit from such subtle nuances would be people who *understood*.

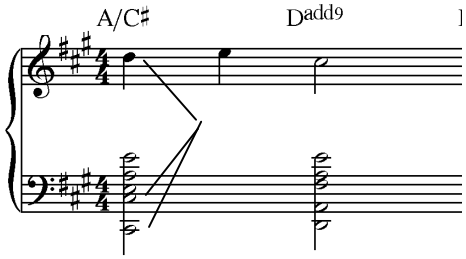
But all the various subtle intricacies which make up what film music is, are still communicated (albeit in different ways) to everyone depending on their level of aural engagement and emotional awareness. If we look at the following three small chord excerpts from the original transcription (fig.60) paying particular attention to the chord extensions and voicings, we can see again how Horner introduces tiny snippets of subtle harmonic ambiguity and tension to lessen its 'absoluteness'. Looking at bar twelve of fig.60 (transcribed separately, below, fig 62) we see that the harmonic flavour, complexion and dynamic of the first chord have been altered by virtue of the inverted bass (F#) and the added 9th (E).

Fig.62



These two small almost imperceptible alterations are italicised by the specific choice of the D melody note itself, which creates tension between *it* and the added 9th (the E note) which lays a 7th below. This is classic example of the kind of harmonic tension Horner creates by way of his choice of chord, melody note and voicing. More obviously we have the clash between the low maj3rd (G#) of the E chord and the 4th (A) of the melody note a flattened 9th higher.

Fig.63

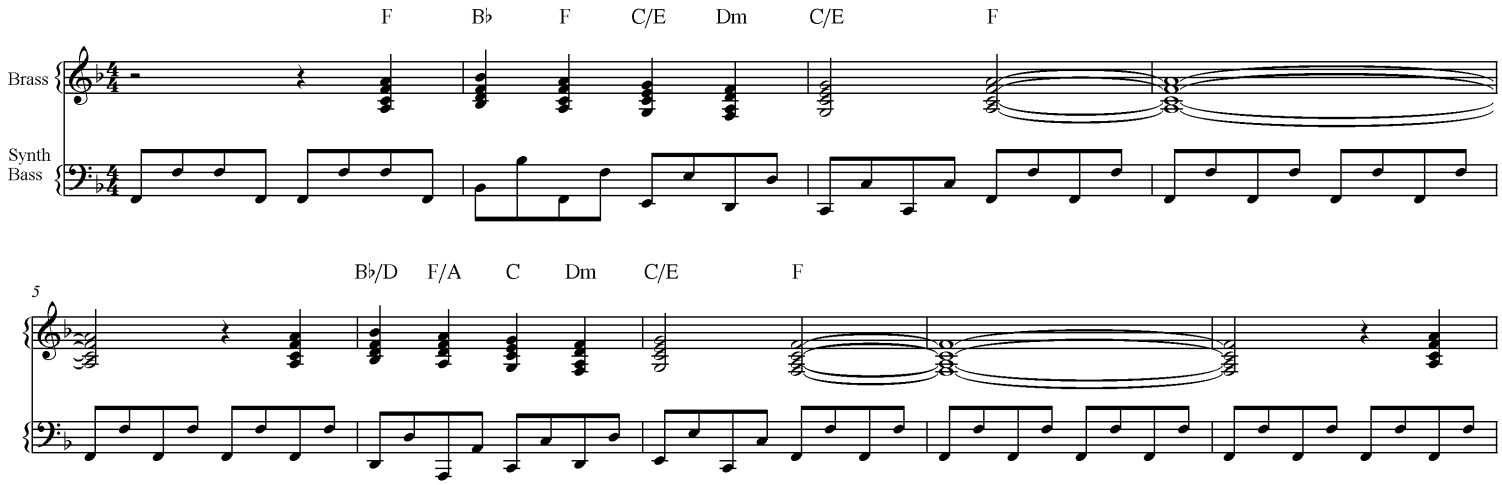


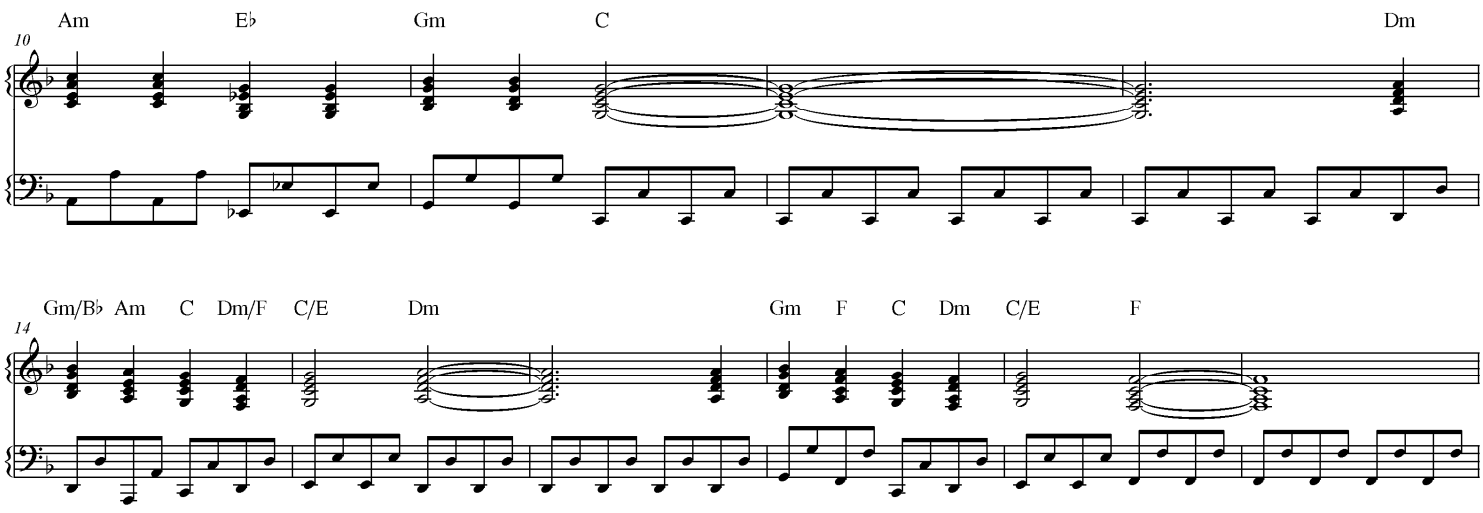
Another small but effective tension is to be found in bar ten of fig.60 (transcribed separately, fig.63, right), in which the top note of D clashes with the chord of A underneath. Horner italicises the clash by placing the A chord on the 2nd inversion, e.g. over the C# bass).

Since these alterations qualify as 'filming it up', we need to ask why film music needs these tensions? Subtle tensions where harmonic tolerances are explored *work* because they give an 'edge' to the sound. If each of the examples shown had been voiced 'straight' with no tensions, the sound becomes 'normal', predictable and lacking in distinctiveness and, more importantly, colour. When James Horner talks about his work he frequently uses the word 'colour'. Often people assume this is 'obvious' colour in the way he crafts melodies; but often the kind of colour which really distinguishes his work are the type of almost-but-not-quite imperceptible harmonic nuances detailed above. That isn't to say that we should always place these slight tensions to subvert chords; only that it works in *some* filmic contexts where the music is otherwise quite straight.

When used properly and sensitivity, tensions challenge our assumptions and confound our expectations. They surprise us, which draws our attention and raises our sense of excitement. These emotional reactions are often so quick and so deeply embedded in the music to be noticed. But the point is that they *are* noticed and they serve the greater endeavour – the film – by making our awareness heightened. In terms of how music 'speaks to us' and what emotions it suggests, implies and alludes to, the piece entitled 'Launch' which comes 28 minutes into the film and plays initially over the astronauts being suited up, speaks with one very strong voice – that of a Hymn. It's simple, mostly harmonically hymn-like and plodding rhythmic qualities and characteristics lend the scene a solemn and respectful sense of quiet reverence. But even in this sequence we have 'film music fingerprints' at various points, most notably and obviously the move from Am to Eb (#4) in bar ten. The chances of finding this particular 'cadence' in any Hymn are extremely remote.

Fig.64 *Audio - 'The Launch' – Movie - 00.28.00*





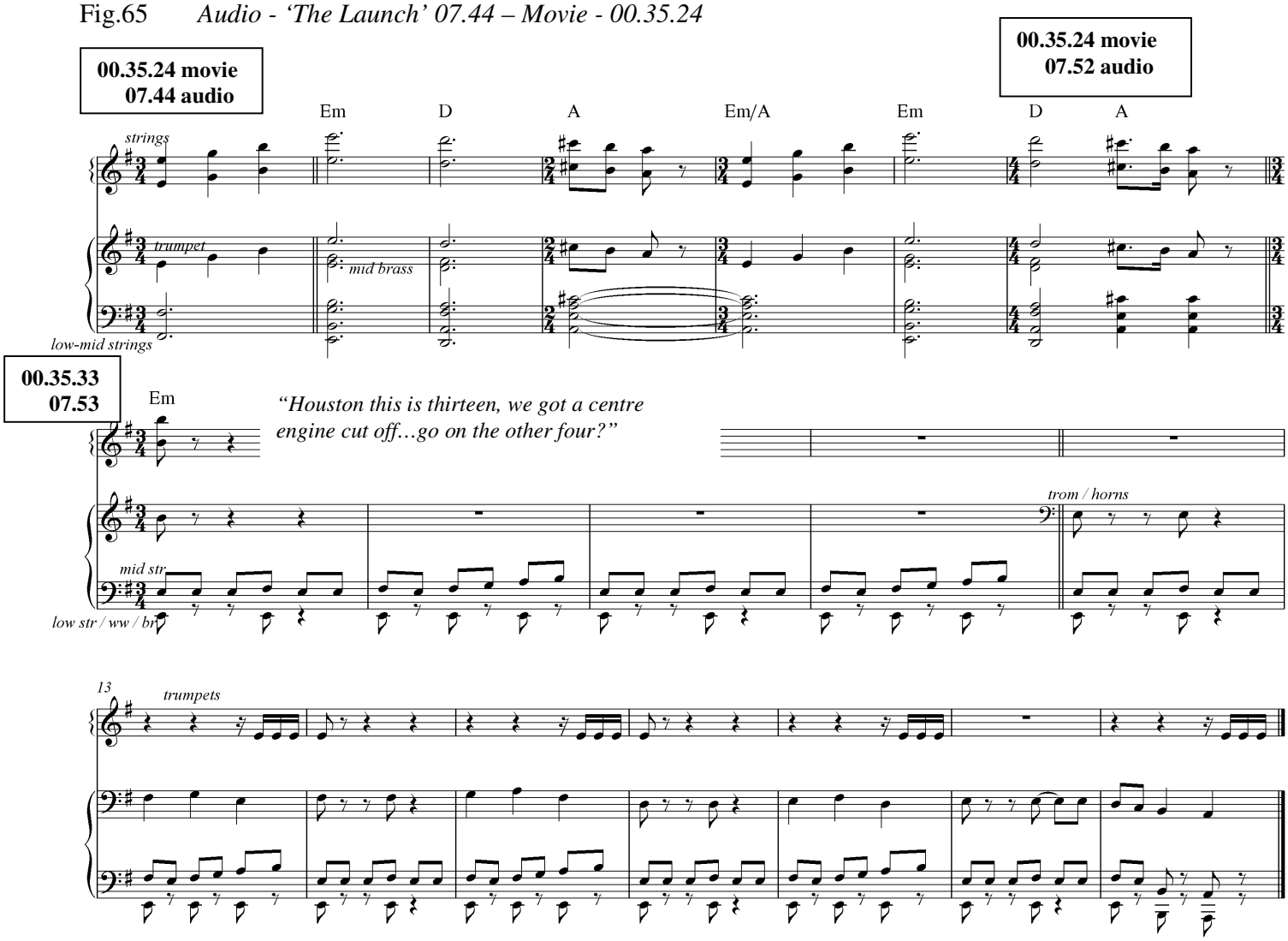
Horner provides a serene and pedestrian harmonic sequence which is juxtaposed by the filmic chord shift (Am to Eb) and the octave synth bass line.

Interaction, punctuation and sonic architecture:

Music is often not about melody or the grand gesture; it's about interaction, placement, punctuation and architecture. This issue is perhaps articulated well by a later section of Horner's music for the launch in *Apollo 13*. Scenes which are fast-paced or action oriented are often prevented from being musically 'over-melodic' by the clear and obvious limitations of a fast moving and complex visual environment laden with sound design and dialogue. Melodic structure, and the need for an absolute identifiable definable shape, can sometimes be a limiting device when applying music to a scene which has lots of action**,** dialogue or movement.

With this in mind let's take a look at a section 33 minutes into the movie during the launch where Horner switches effortlessly from the grand, majestic, heroic theme straight into more rhythmically oriented music which is designed to strategically punctuate the cacophony of sound design and dialogue without compromising it. This appears following an alarm which goes off in the space capsule. The heroic thematic music gives way as soon as we see an alarm flashing on the instrument panel. Immediately Horner's music begins the punctuated dramatic quick-burst trumpet semiquavers, trombone 'melody' and accompanying strings. The emphasis here is to allow the picture and narrative to breathe. This approach manages to accommodate the narrative whilst also punctuating it effectively. The constant rhythmic uncertainty doesn't ever settle long enough to be detract from the scene.

Fig.65 *Audio - 'The Launch' 07.44 – Movie - 00.35.24*

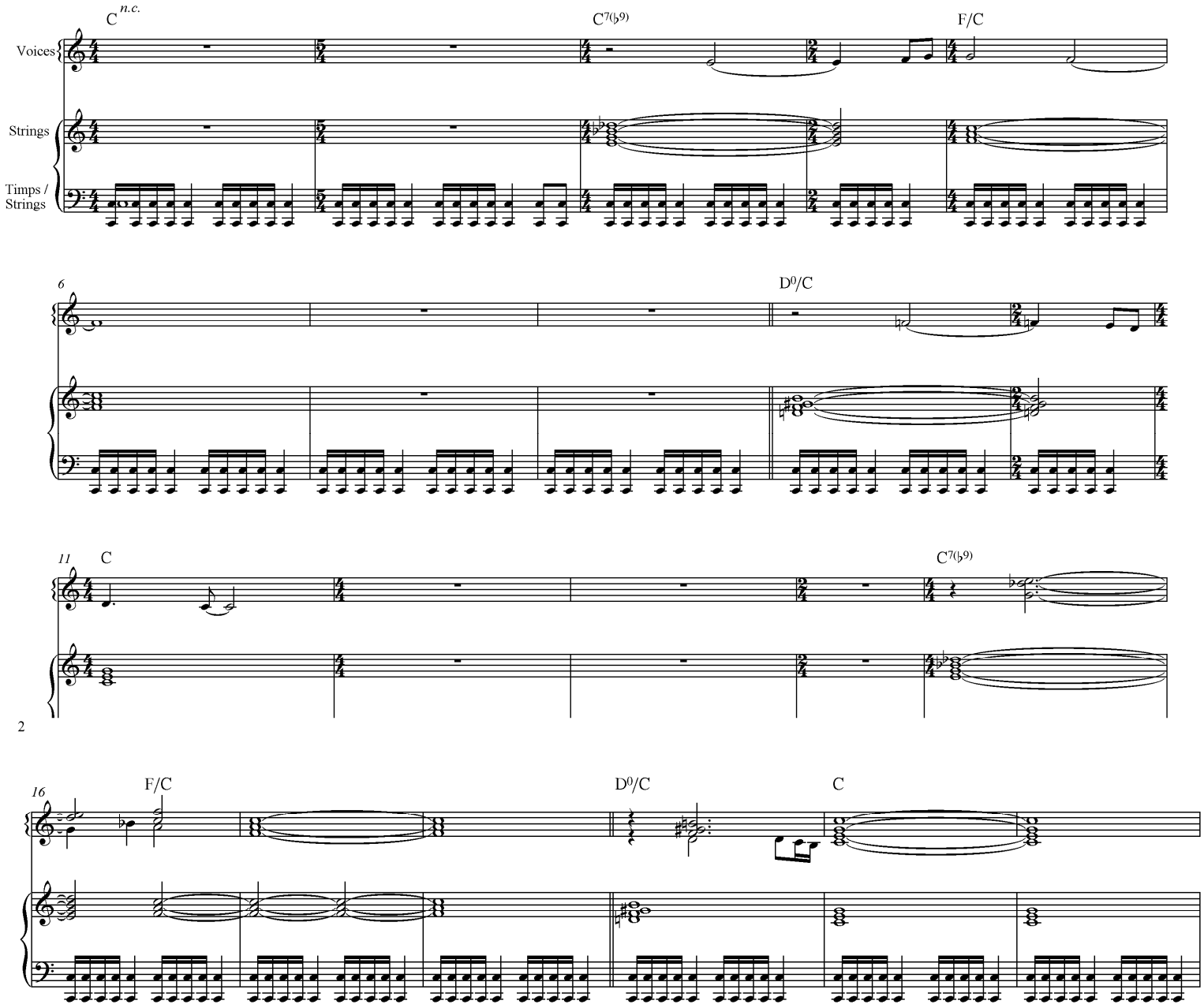


Syncopated music punctuates the visual and on-screen drama. 'Complete' music (obvious chord changes, strong melody) would be inappropriate and would get in the way of the dialogue and on-screen action.

01.07.30 into the film, just prior to the crippled spacecraft disappearing behind the moon to 'slingshot' into a path which would bring it back to earth, Tom Hanks' character (astronaut Jim Lovell) says to the rest of the crew "You wanna look" [at the moon]. At that point a deeply evocative and haunting cue entitled 'The Dark Side of the Moon' begins. The cue itself is divided into two sections.

The second section, transcribed below, begins with Hanks' character saying wistfully "So long, earth. Catch you on the flip side". Buzz Aldrin's autobiography was titled *Magnificent Desolation,* a phrase he used to describe his feelings about the moon on the Apollo 11 lunar mission. I mention this because Horner's incredibly expressive cue 'The dark Side of the Moon' conjures up feelings of desolation. It invokes feelings of isolation and loneliness and works perfectly for the scene. The point, as ever, is how? How can a piece of music conjure up 'desolation' and 'isolation'? How is that even possible?

Fig.66 *Audio - The Dark Side of the Moon 01.00 Film 01.07.30*



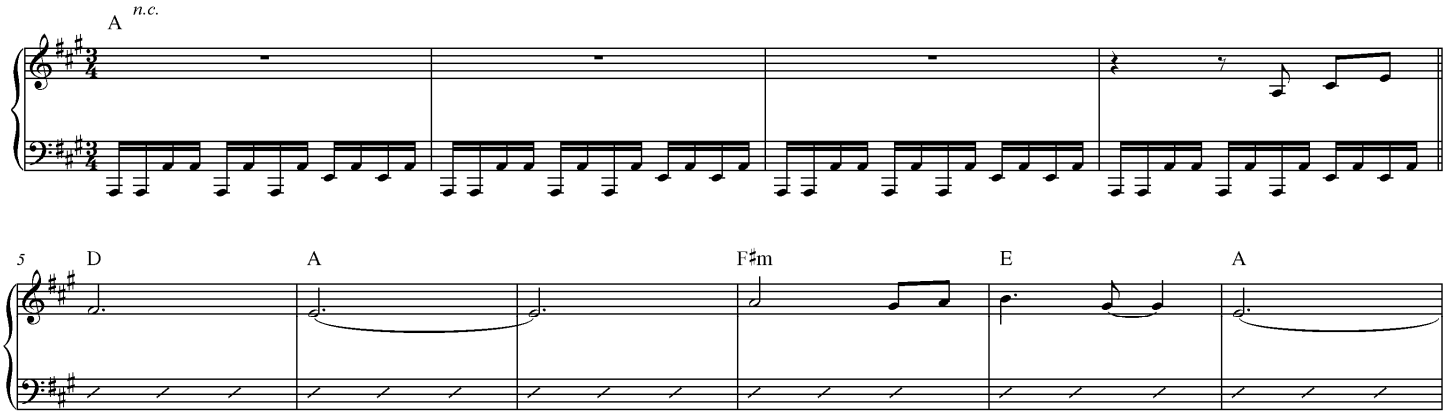
The constant mesmerising monotony of the pedal bass note on piano and timpani lends the piece a texturally disturbing and unnerving air. This is juxtaposed by the heavily emotive and subtly romantic C7(b9) chord. The chord is, in essence, an E diminished chord over a C bass. The 'diminished element' of the chord - three minor 3rds stacked over the E note – create a specific tension. Another issue which creates a feeling that might be interpreted as 'isolation' is the length of time that elapses between the beginning of the piece and the first string / vocal entry (bar three). As a listener we slightly lose track of pulse and time which makes our reaction to the C7(b9) all the more intense. The same thing happens in the three bars between bar twelve and fifteen; we are so used to hearing music which makes its point quickly and succinctly that the long sections where all we hear are the low piano and timps are a little unsettling.

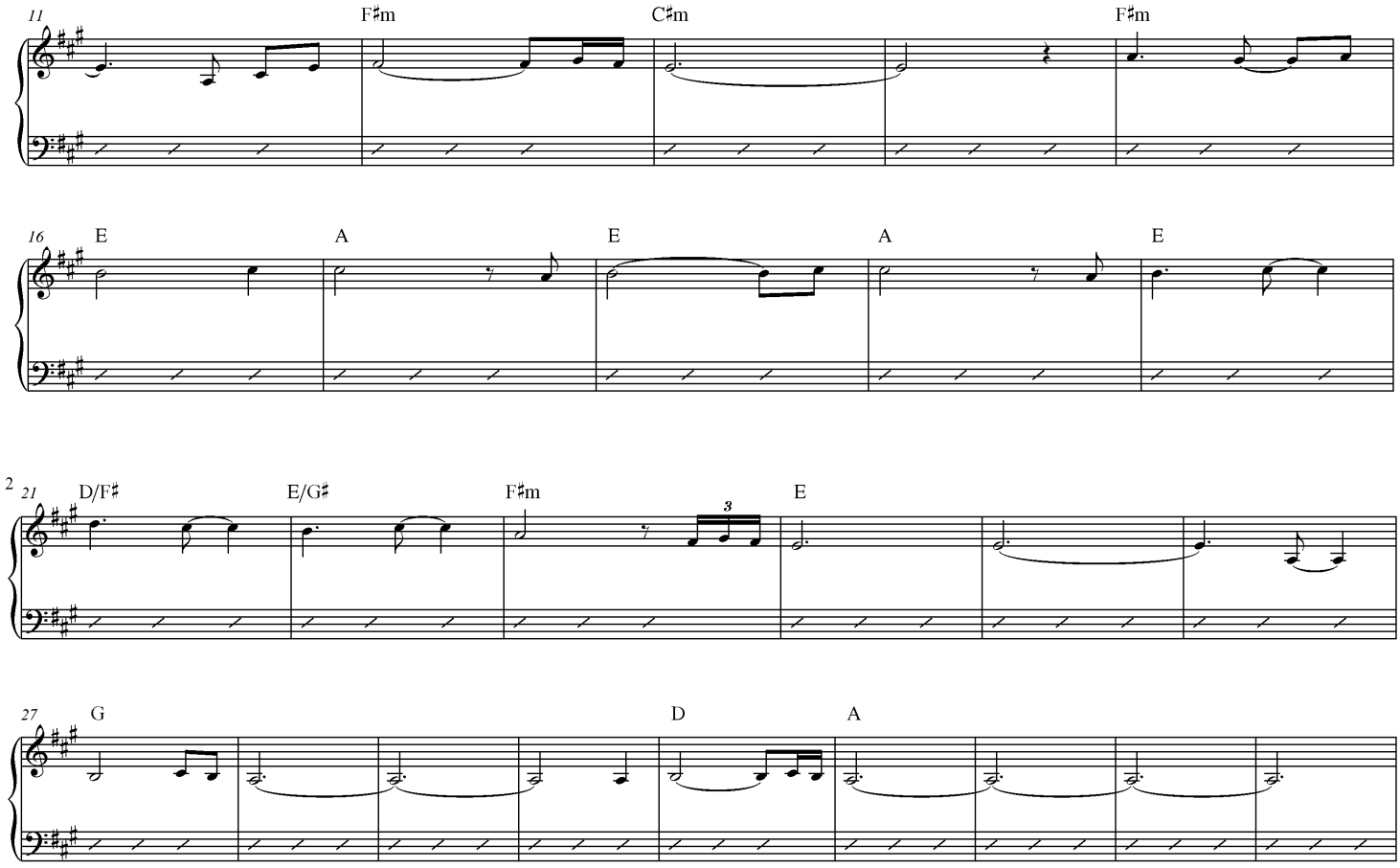
When listening to music we rely heavily on being guided and lead. The BPM is quite slow in this cue and hearing the low C-note phrase alone for a couple of bars at the beginning becomes a little ethereal, causing us to 'zone-out' of what we assume is the key centre. For listeners the first string / voice entry becomes effectively the beginning of the piece; but few pieces begin on a 7th chord: the 7th chord is normally a transitory chord. To hear an elongated 7th chord with the flattened 9th being so prominent at the beginning of a chordal sequence is quite strange, which adds to the slight strangeness. Bar fifteen onwards is essentially a harmonic repeat of the chords from bar three, but the addition of the high choir is an effective textural inclusion and is reminiscent of the so-called Golden Age of film scores.

The final section of *Apollo 13* to be analysed is, accordingly, the end titles sequence, another classic Horner piece this time featuring a modern synth-driven semiquaver bass line and a haunting solo voice. Addressing what elements conspire to deliver such an effective and strong theme, we're drawn to the simplistic melody and chords, which allow the piece to function almost in a traditional Hymn-like fashion. What really gives the melody strength and character is a combination of the rich vocal textures but also the *lack* of any accompanying harmony. Denied the usual harmony and voicing, we listen more intently to what *is* there, which becomes disproportionately more important and thus more acute. Bar five starts with a strong, emotive major 3rd. There is no need for any harmonisation because we have the root and 3rd which dominate and define. The E melody note which follows represents a bare 5th over an A bass with no harmonic filler but the A note in bar eight represents a strong vibrant minor 3rd over the F# bass.

Glancing over most of the piece we realise the melody is a collection of notes which alternately hits the major or minor 3rd (strong defining intervals which create a strong harmonic feel, despite the lack of actual supportive harmony) *and* stark 5ths with no harmonic colour. The juxtaposing works well. Listening to the heavily reverbed B and G# melody notes in bar nine resolving to the E note in bar ten (over the A bass) is interesting; over the presumption of an A chord we hear the 'ghost' of the B and G# notes, which we rationalise for a moment as an E/A chord which creates interesting ambiguity and slight tension. The other interesting fact about this piece is how it seems not to have a distinct time signature at first; it is difficult initially to find where '1' is due to the frantic semiquaver bass motif and lack of percussive rhythm.

Fig.67 *Audio – 'End titles' Film - 02.08.37*





MISSION TO MARS *Ennio Morricone*

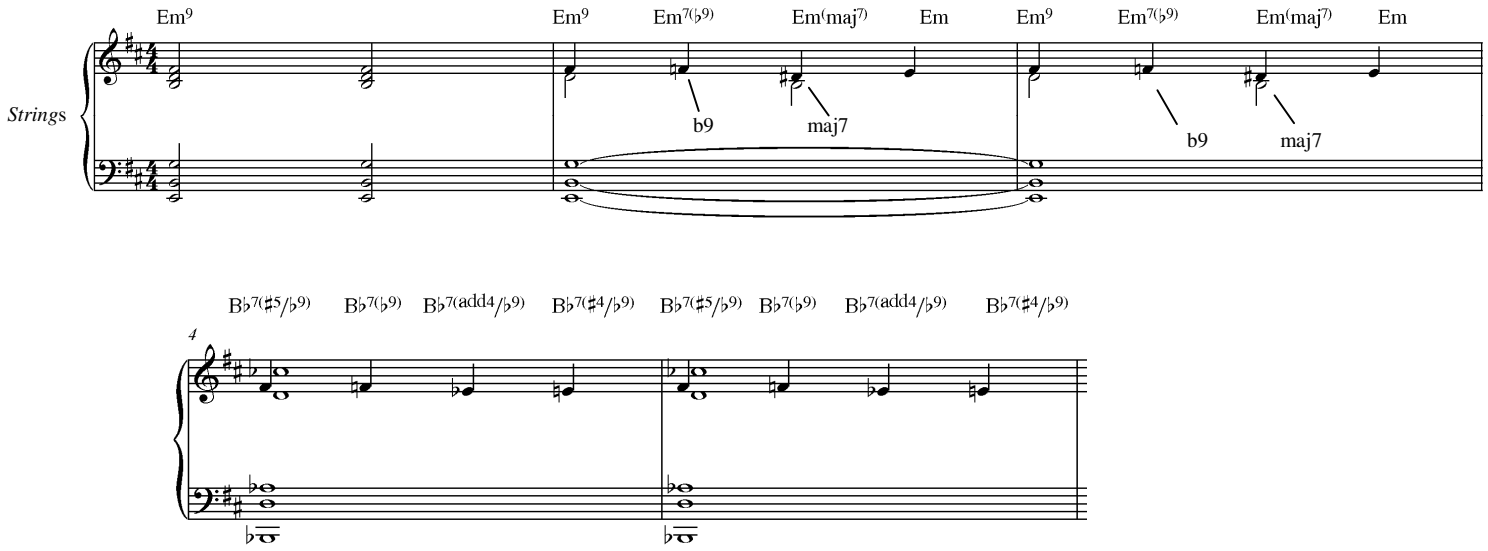
Mission to Mars is a 2000 film about a rescue mission to Mars following a disaster during the first manned voyage to the planet. The film was panned relentlessly by critics and was not a critical or commercial success. Equally criticised was the score, composed by Ennio Morricone. Granted it was a strange score which in many ways was at odds with what cinemagoers might have expected from a film made in the year 2000 about a mission to Mars; it was atmospheric, vivid, harmonically abstract and dissonant in places, featuring odd electric guitar and synth lines. But also it featured examples of string writing which had a very dated, romantic air. Possibly this is what confused people. A *filmtracks* revue from June 2000 referred to the score as 'extremely dated', adding "awkward, dissonant counterpoint and instrumentation [remind me] of cheap, 60's fantasy scores" with "a few singularly awful and simply unlistenable cues being painful to the ears".

This absurdly hysterical revue misses several fundamental points about Morricone's style and approach, but also seems not to understand the underlying narrative of *Mission to Mars.* Brian De Palma's film is science fiction only at surface level. Underneath, like many great 'science fiction' films it was principally about humanity; *people*. It was a film laced with tragedy and triumph, life and death. The score exudes a warm, affectionate, romantic and positive air in most of its cues. The music does not always fit in an obvious sense with the film in that Morricone often uses quite dated harmonic devices.

Anyone who remotely understands what Ennio Morricone is about will realise he has done this before, just as effectively; his music for the film *Wolf* (which is analysed elsewhere) features some warm, affectionate and romantic scoring with a distinctly dated feel. In context of *Mission to Mars* this deliberate move lends the film a curious sense of skewed time. Clearly a current film set maybe ten or twenty years in the future, its music draws mostly on the past with a few admittedly clumsy references to modern synth sounds. It harks back to a time before cinemagoers became addicted to bombastic formulaic scoring. The score isn't entirely unlike Michael Nyman's music to the 'science fiction' film *Gatacca* in that it offered a placid and serene sense of romanticism which belies the surface level narrative of the film.

In a scene 00.09.40 into the film an astronaut who is unable to be a part of the first manned mission to Mars says goodbye to his fellow astronauts at a 'Bon Voyage' party. The character's fellow Mars project scientist wife died recently and, as a result he is deemed mentally unfit to be a part of the mission. As he leaves the gathering he is obviously deep in thought. The cue below manages to convey *his* morose state of mind, along with a deeper suggestive sense of unease and foreboding conveyed for the benefit of people watching the film.

Fig.68 *Mission to Mars: 00.09.40*

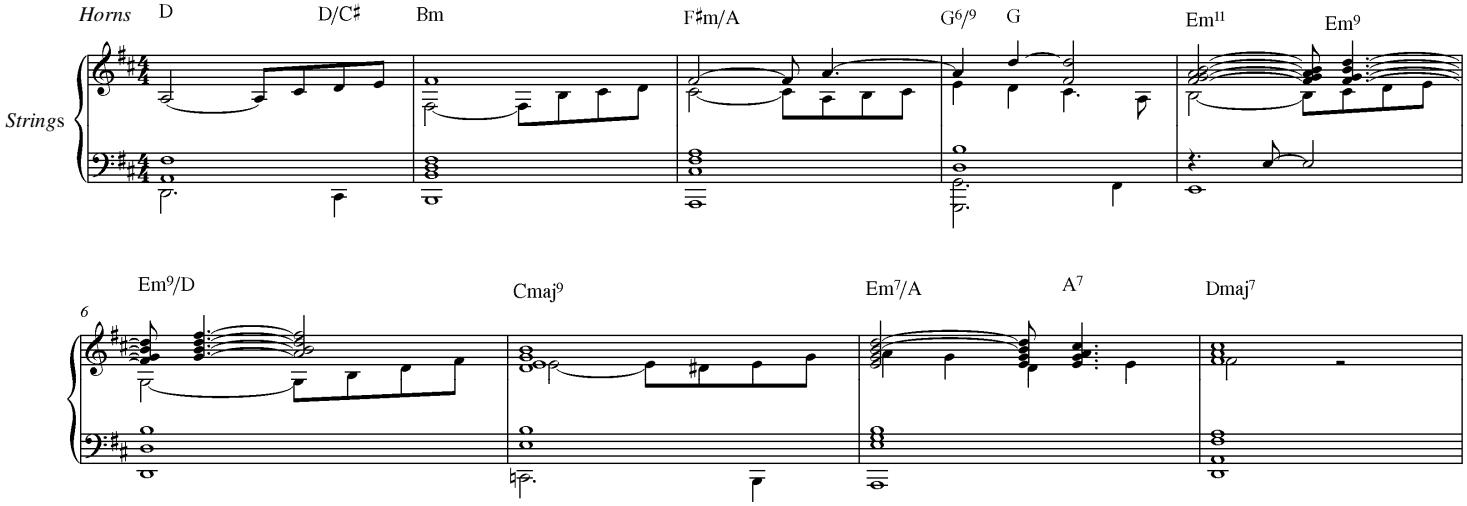


The cue is a curious mix of intervals and harmonies which manage subtly but successfully to convey competing and conflicting emotions. The lush Em9 chord (bar two), voiced expansively at the bottom (root, 5th, 10th) with the melody taking the 9th, is at odds with the unexpected appearance of the Em7(b9) – a rarely used and odd chord with obvious tensions between the F and the low E. This is followed by the Em(maj7) featuring the D# in the melody; again, there is tension between *it* and the low E bass. The chords are odd but, more importantly, their placement, context and order of appearance (following the conventional and soft Em9) is odd too. For example the Em(maj7) is a definite 'Bond' chord and yet used in this context it is deliberately robbed of the familiar harmonic terrain which accompanies it.

Thus it is the context which gives us the skewed harmonic feeling: Chords do not transmit their characteristics in isolation; there is no such thing as a *good* chord or a bad chord. If a chord appears to sound effective or exude specific qualities it is nearly always the context which has been effective; the chord relationship. The cue is made more effective because the same line continues in bar four and five accompanied by different supporting harmonies, making the F#, F, Eb and E melody line represent the #5, 5, 4 and #4 of the underlying Bb7 chord.

At 00.10.40 into the film we cut to '13 months later' by which time the crew is busy exploring Mars.

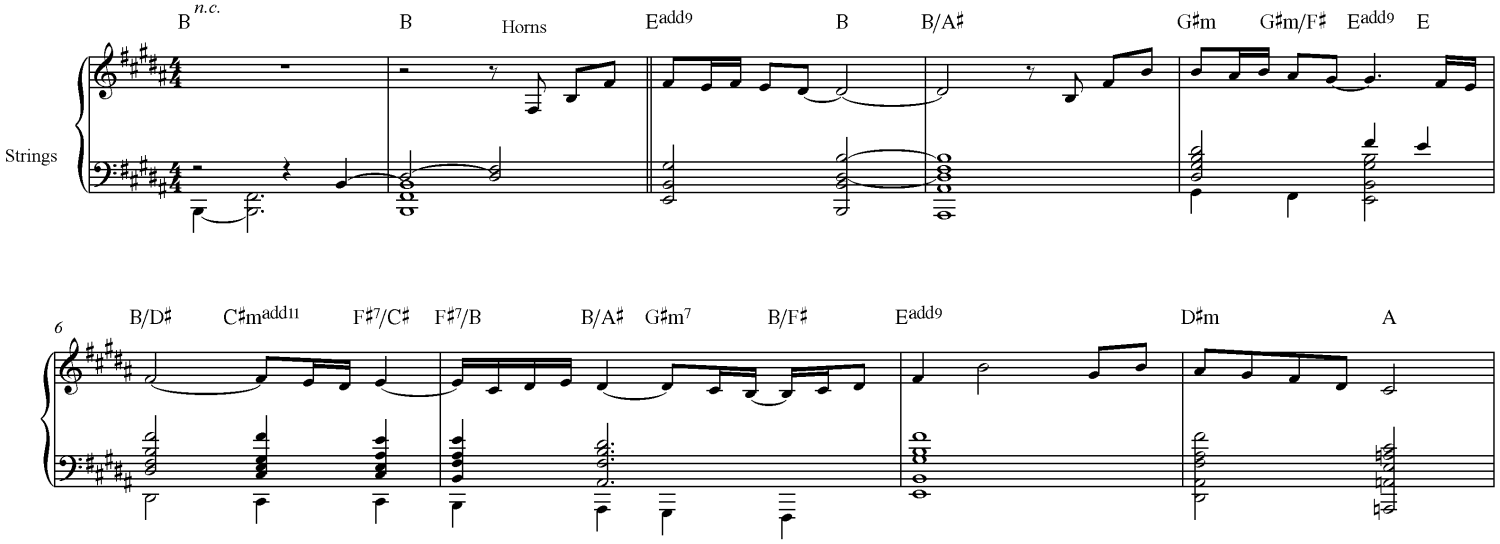
Fig.69 *Mission to Mars: 00.10.40*



The music once again conveys a mixture of subtly different emotions. On the one hand we hear an imposing Horn line reminiscent of regal majesty. The momentum and sense of inevitability of the ascending bass line helps the feeling of grandeur. But we also have the soft, lush romantic chords (Em11, Em9, Cmaj9, Em7/A) to suggest more relaxed emotions. This mixture of gravity and almost theatrical melodrama once again underpins characteristics of Morricone's style, which is always multidimensional and never obvious. Again, by doing this he avoids the quicksand of duplicative or cliched scoring. His fondness for slightly obscuring chords through vivid cluster voicing is particularly noticeable here, in the Em11 in bar five.

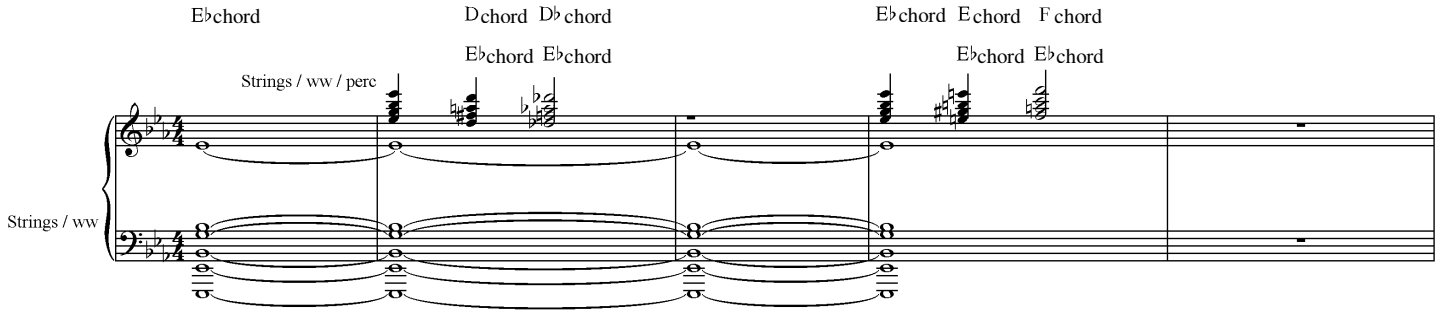
The next cue to be examined comes at 00.26.28. After the choice of a rescue mission crew has been passionately debated back at the earth-orbiting 'world space station', we cut to an external shot of the rescue mission space ship en route to Mars. Once again we have a beautiful typically Morricone sweeping romantic Horn melody. The emotive melody is extremely effective in suggesting both a stately, imposing feel whilst the chords offer a soft, lush accompaniment with trademark tensions such as the B/A# chord in bar four and the almost separate musical narrative offered by the sliding bass (bar five to nine). Once again we have the glorious inevitability of the downward bass from bar five through to bar seven, with the inverted accompanying chords, which together create an evocative feeling of tradition, romance and inevitability.

Fig.70 *Mission to Mars: 00.26.28*



The last cue to be examined is the pivotal scene where the astronaut who has been marooned on Mars for over a year reveals his discovery to his rescuers - the famous 'face on Mars' which turns out to be an enormous carved out perfect human face. Morricone's almost childlike music for this scene, again, is a deliberate attempt to play the immediate sense of disbelief and wonder with simple mesmerising mildly dissonant chromatic chords (played by strings, woodwind and tuned percussion) over a lushly scored major chord on low/mid strings. Morricone could have played the spectacle and the astonishment but chose to simply play the wonder, almost as if it were magic.

Fig.71 *Mission to Mars:* 01.12.22



Chapter 6

JURASSIC PARK & E.T. *John Williams*

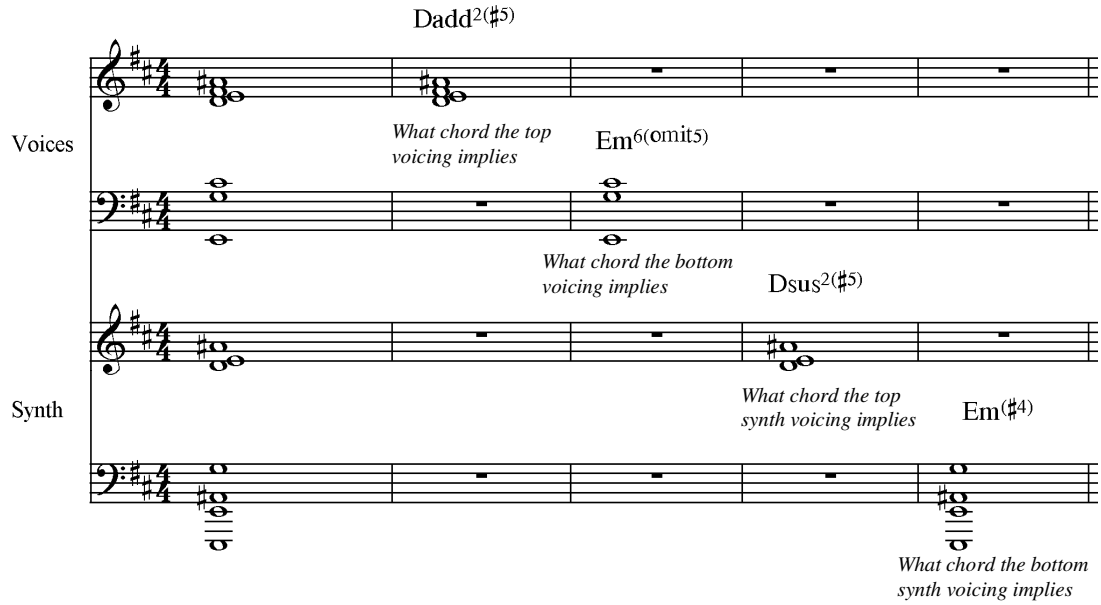
THE USE OF MELODY, HARMONY AND ORCHESTRATION

In this chapter we analyse the scores to *Jurassic Park* and *E.T.* in terms of their melodies, harmony and arrangements, scrutinizing in detail how the music communicates the emotion of the films and articulates the excitement and depth of the stories being told. The chapter looks in detail at the orchestration, analysing the different elements and layers, examining in detail how these combine and interlock. Voicing and instrumentation is studied closely. *Jurassic Park* is a 1993 American science fiction film based on the novel by Michael Crichton, telling the story of the fictional island of Isla Nublar, where genetic scientists have created an amusement park of cloned dinosaurs. The film was highly praised for its then ground-breaking and stunning CGI visual effects. For many film makers *Jurassic Park* was a watershed moment; a turning point in the history of movie making where directors found that many of their ideas and concepts were no longer impossible to realise.

Before we look at the iconic and memorable melodies from *Jurassic Park*, let us briefly look at the very first chord we hear, right at the start of the film. Williams is a great user of abstract and polyphonic harmony and nowhere is this more effective than the first chord.

Audio 'Opening Titles' Movie – 00.00.26

Fig.1 Opening chord



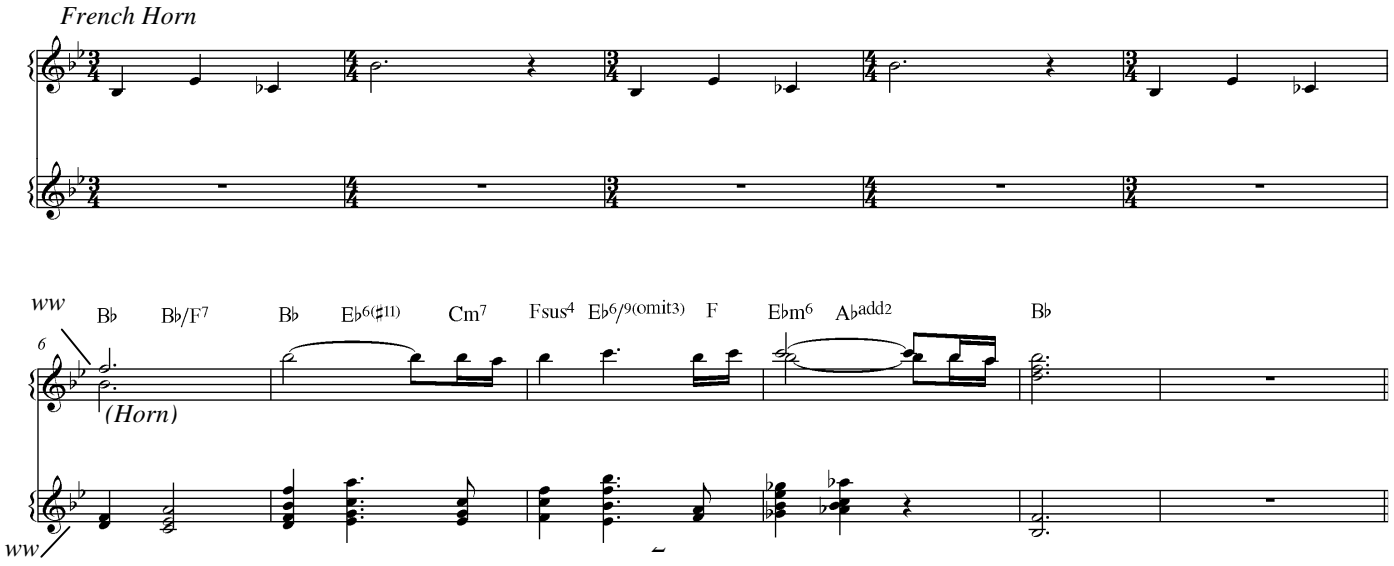
The chord is performed by the unique textural qualities of the choir and synthesizer. One way of understanding how and why dissonance works so well is to realise that frequently what it actually consists of is polyharmony; two chords at once. People can't deal with two chords at once so they attempt to rationalise what they hear as one singular unifying chord. We are seduced into thinking that listening to music is purely an intensely emotional and personal experience.

But how we react emotionally is down to a number of factors, most of which are predictable, understandable, explainable, and, to a degree standardized. Our ability to listen to music and gain enjoyment from it is based partly on our ability to classify and categorise what we hear based on the knowledge and partial memory of a vast collection of previous musical experiences which act as a template through which we assess and ultimately judge new musical experiences. Most of us are not always prone to listening objectively. We listen according to what we're *used to* and most music is heard through that restrictive and subjective prism; we listen with prejudice. We attempt to categorise and classify what we listen to. If we didn't listen to new music in context of our memory, knowledge and understanding of previous listening experiences, everything would need to be assessed afresh and every new listening experience would be challenging, lacking the comfort of familiarity. If all new music written completely ignored the safe structural templates and traditions inherent in most music, this too would represent a challenging listening experience. So, our ability to listen to and enjoy music is based on a kind of cozy relationship between *us* and the composers who write the music we listen to. Good composers deliver music which, on the one hand can be digested relatively easily and without fuss, but on the other hand offers us something genuinely new which makes us sit up, listen and enjoy.

I say all this because film is one area which regularly offers us music which challenges our assumptions. It is an area where composers can create music which, under normal commercial conditions, might be subject to hostile interpretation. With all this in mind it's worth remembering that what listeners are not very good at, understandably, is listening to two types of harmony at once. We tend to interpret it aurally as mildly chaotic; as dissonance. If we analyse the opening chord to *Jurassic Park* (fig.1) we find it's actually several chords. On the top stave (voices) we have a Dadd2 (#5), and 'underneath' we have an Em6 (minus the B - its 5th - which would have clashed with the Bb in the 'top' chord). The top synth stave features a Dsus2(#5) whereas the bottom stave features an Em(#4). In a nutshell there are two subtly different types of D chord and two subtly different types of Em chord. These all fuse together not to create aural chaos but to create a particular kind of dissonance which is forensically worked out by Williams to cause anxiety and apprehension.

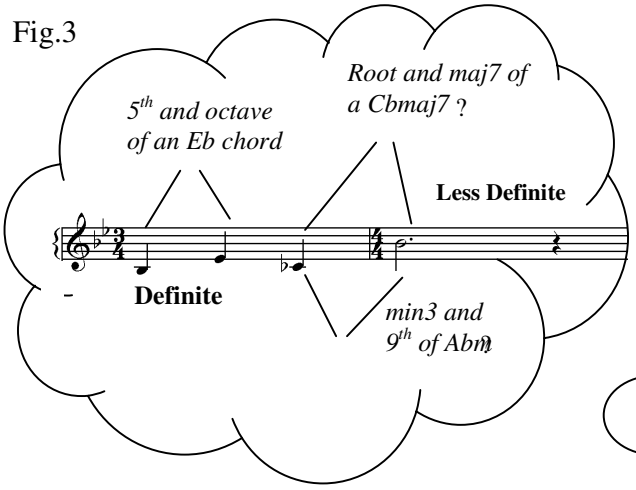
I mention this because people often look for the reason why a certain chord evokes such particular emotions and presume it's all about the sound; this is because when we look at the chord we see only dissonance. We hear the opening chord, with its distinct vocal qualities, we then look at the overall chord and because we don't see something obvious that we can identify immediately, we see and hear only dissonance. The reason this chord works so well is because it is *not* merely dissonance. It is not chaos.
It is just as specifically and forensically structured as a 'normal' chord would be. With John Williams nothing is accidental. Turning now to the first few bars of the 'Jurassic Park Theme', we can see again how Williams' manipulates harmony to offer some interesting and evocative colour.

Fig.2 *Audio – 'Jurassic Park Theme'*



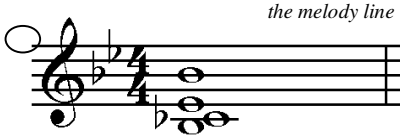
Looking firstly at the opening solo horn line, performed without supporting harmony, it's interesting to note how listeners 'hear' and interpret the first two notes and then the second two; the first two are easy and fit effortlessly into classification, but the second two notes are more subject to interpretation.

Fig.3



The first interval (4th) has really only one interpretation whereas the second two notes have two possible interpretations. The interval itself (maj7) when played without supportive harmony has a distant, ethereal feel (fig.3). When analysing horizontal harmony (harmony implied solely by the movement of melody) it helps to turn it on its side and look at it vertically (below)

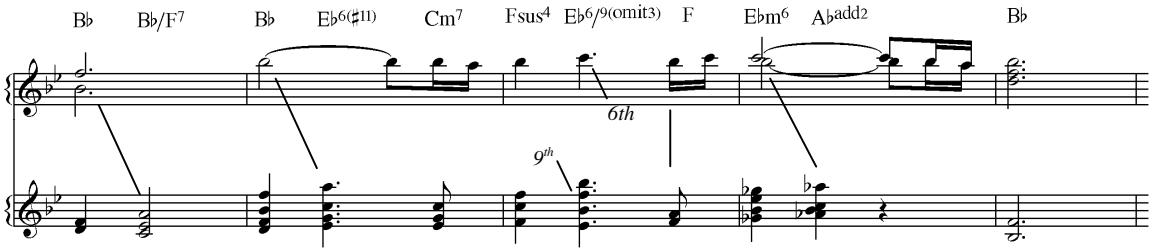
The 'vertical' version of the melody line



When taking into consideration all four notes in fig.3, it sounds like either a Cbmaj7 over a Bb *or* an Abm2/9 over a Bb. As I alluded to earlier one of the reasons for the distant ethereal feel is because the harmony suggested and implied by the two notes is uncertain. It is indefinite and lacking in harmonic certainty. As we have discussed elsewhere, a note-grouping which has two possible ways of being visually rationalised in terms of applied music theory and chord symbols, usually also has two ways of being aurally interpreted too. A chord symbol is not simply a name we give to a group of notes; it also functions as a name given to describe what a chord *sounds like* or even the way it makes us feel. A listener doesn't have to be an expert in chordal knowledge or music theory to be the beneficiary of a chord which has two an indistinct aural flavour; so the fact that a chord can be called both a Cbmaj7/Bb *and* an Abm2/9/Bb is a reflection of two subtly different aural realities that affects all the listeners, not just those who can 'understand'.

Looking beyond the first few bars, at bars six-ten (transcribed separately, below, fig.4) we see and hear again Williams' exquisite harmonic blurring. The mild tension created by the F7 (lower stave woodwind) chord (2nd/3rd beats of bar six) and the Bb root and 5th (top stave) – specifically the clash between the A and Bb notes (highlighted) – works extremely well in creating a beautiful and vivid sense of colour. Again, at the centre of this dissonant tension is, essentially, polyharmony in that we hear a strong suggestion of the Bb *and* F7 chords simultaneously.

Fig.4

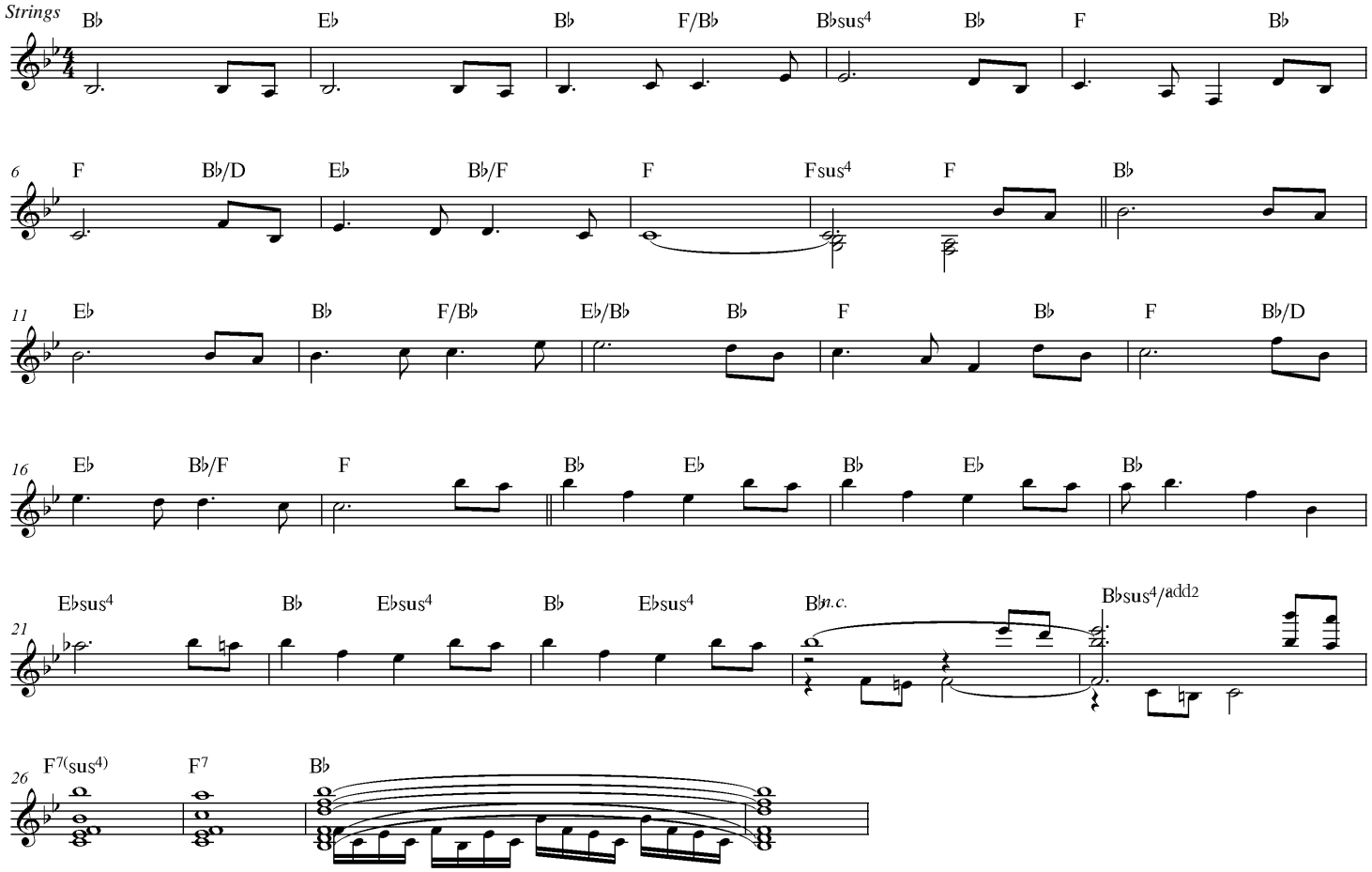


The non-defined chords on beats 1 and 2 of bar three of fig.4 (above) are effective too, but in essence the colour is derived in the second chord from the harmonic dynamic created by the *absence* of the maj3rd (and the omission of the colour and certainty it normally brings) which ensures that the 6th and 9th are heard in an unusual and slightly italicized context. Williams' writing, particularly his impressionistic brushstrokes via the use of incomplete, fractured, suspended or poly harmonies, proves emphatically how effective these indistinct and hazy approaches can be. Sometimes 'normal' harmony which arrives complete, comprehensive and fully formed, is simply too obvious, definite and unsubtle for film. The tension in the cluster chord on beat two of bar four (Ab, Bb, C, Ab, Bb, C) works well too.

One of the most instantly recognisable sections of the *Jurassic Park Theme* is played when Dr. Alan Grant and paleobotanist Dr. Ellie Sattler (both of whom are brought to the island by philanthropist John Hammond, the man whose money bankrolled the daring plan) see the dinosaurs for the first time. The sweeping, slumbering, majestic melody successfully conveys the elegance and beauty of the dinosaurs and juxtaposes the astonishment on the faces of Grant and Sadler. We have discussed at length elsewhere in the book how intervals work at a basic level of communication; major and minor thirds are often referred to as 'descriptive intervals' because they literally describe and colour the chord as either major or minor. They are the most obviously colourful, warm and instantly communicative elements of harmony. Equally, roots, fourths and fifths often offer a more traditional context of drama, gravity, power and authority. With this is mind, as a first-base simple analysis of the theme, it's interesting to observe how intervals are used. For example, it's interesting to pose the question: does this piece have a harmonic identity? Is there any single element which defines the piece or identifies it in some way, harmonically?

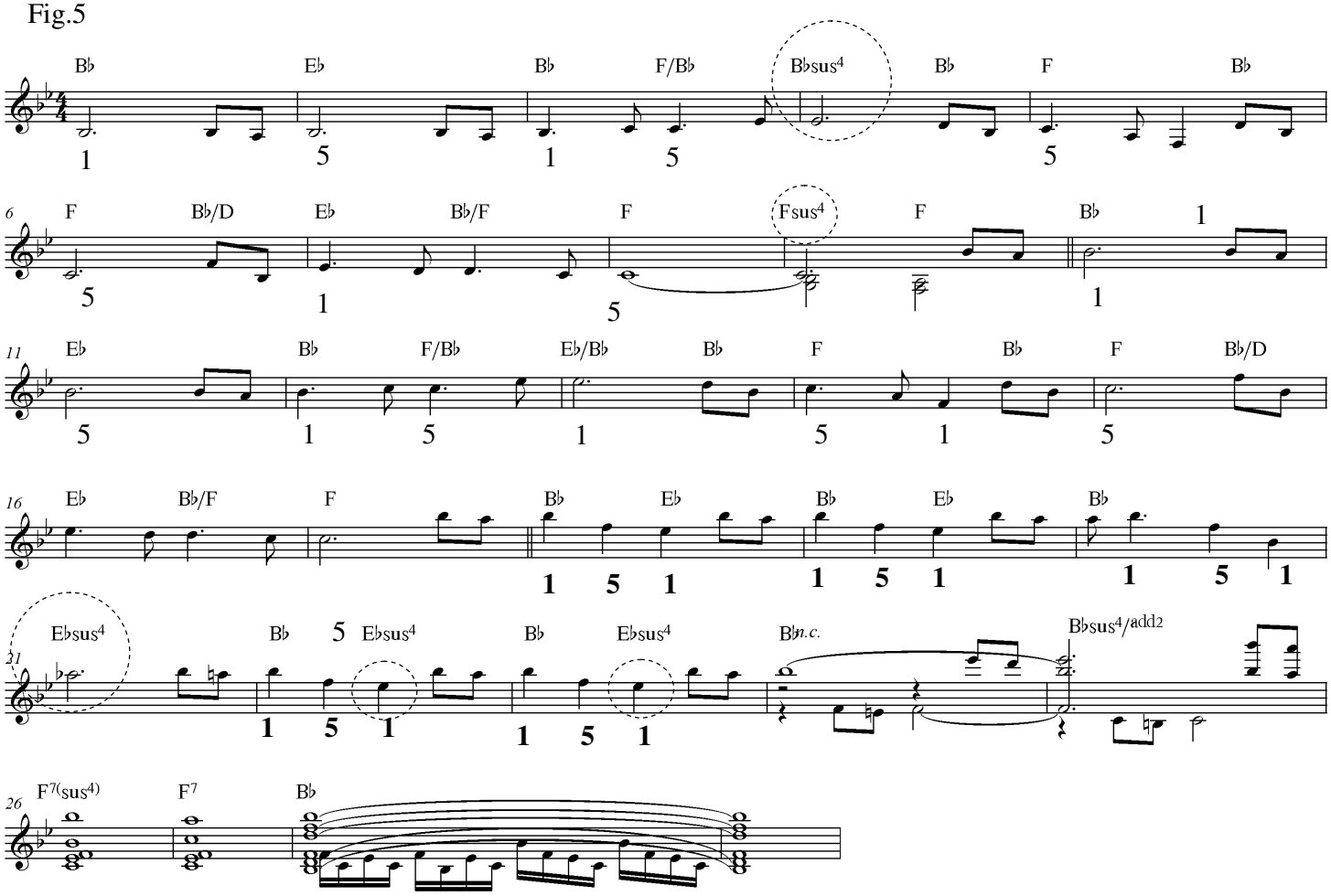
Audio - Jurassic Park Theme 00.42 Movie – 00.19.22

Fig.5



Certainly one aspect is the careful avoidance of thirds at crucial points in the melodic phrase and the replacement of the 3rd with the suspended 4th (bars four and twenty one). The piece also makes great use of the powerful root and 5th as we can see in the version below (fig.5) which has the intervals added.

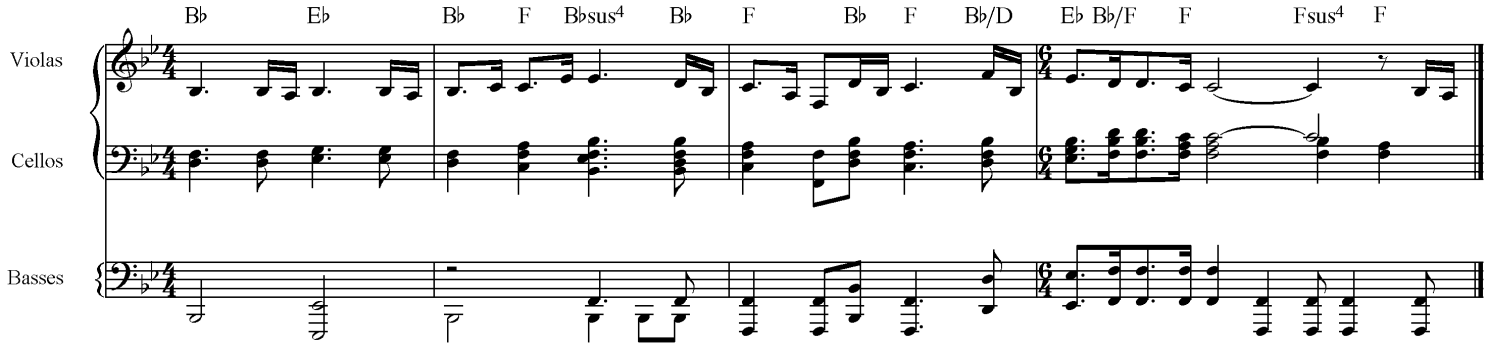
Fig.5



The sus4 is an indefinite, square-sounding interval without colour or warmth, which can disturb and provoke when used right. When key sections of the melody (in this case where the line settles for the longest length on a dotted minim) the 4th is at its most useful by preventing the piece settling and becoming 'too nice' and perhaps too obvious. Thirds are used only sparingly and briefly in passing in this piece. Tellingly the sus4 chords are used more as the piece progresses toward its climax. Using the same cue again but this time in context of instrumentation, it's interesting to see not only how the colour of orchestration is the central prism through which the music is heard but also to note how much of the content of the orchestration we don't 'hear' but still needs to be there to support the sound. Sometimes when you add an instrument or even a section into an orchestration, you're not necessarily after the raw, unilateral sound; you're after the cumulative effect it will have on other textures. In other words, not everything you do or everything you add has to be heard 'on the surface'. Every time you add an instrument or a section you affect everything. There are subtle and barely audible changes in texture, sonority, timbre and dynamic. A simple analogy is to be found in how we create colours from *other* colours. If you combine yellow and blue you don't get half-blue and half-yellow; you get green. In other words you get the result of two colour combining. The transforming power of orchestration is often not heard via the obvious textures of surface-level distinct instrumentation, but is felt by the cumulative power of subtle textures *interacting*.

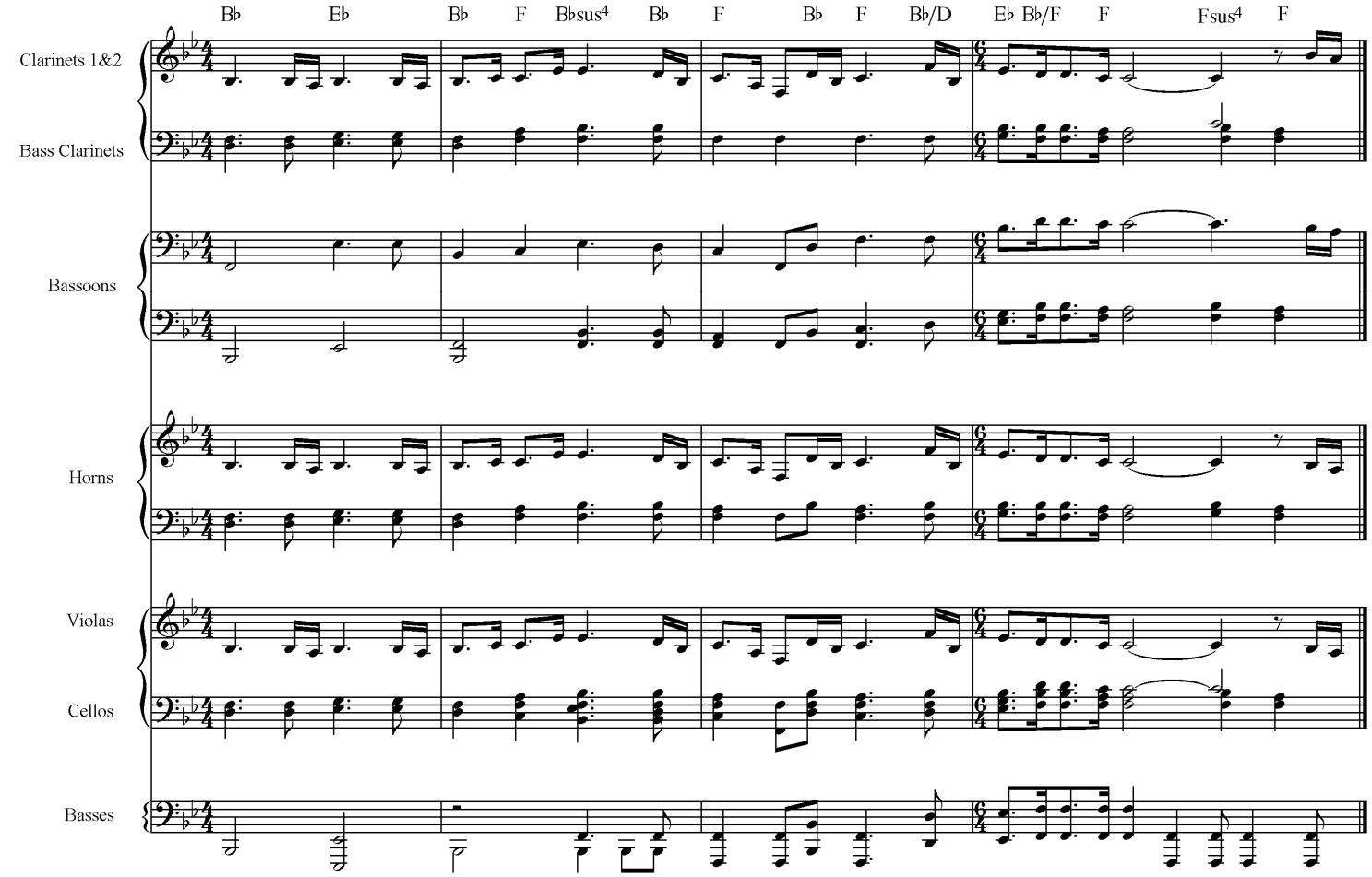
If you listened to the same cue we've been analysing (*Jurassic Park Theme* – official soundtrack version) again, ask yourself, what do you hear? The chances are that you hear mainly strings (as in the transcription below).

Fig.6 *Audio - Jurassic Park Theme 00.42 (abbreviated orchestration)*



However, referencing the original score (below, fig.7) we can see things we don't necessarily hear but need to be there to 'fatten out' the sound and supplement the strings. The horns virtually copy the strings. Also the clarinets and bass clarinet almost copy the strings too. On listening to the piece many would assume that all they hear are the strings. Depending on which recording we listen to the other instrumentation is hard to distinguish.

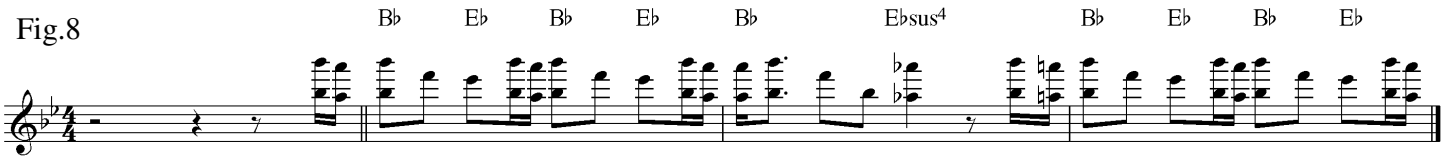
Fig.7



Staying with the theme of orchestration, if we look and listen to another section of the same piece it's almost impossible to 'hear' which instruments play 'the melody'.

Audio - Jurassic Park Theme 01.15

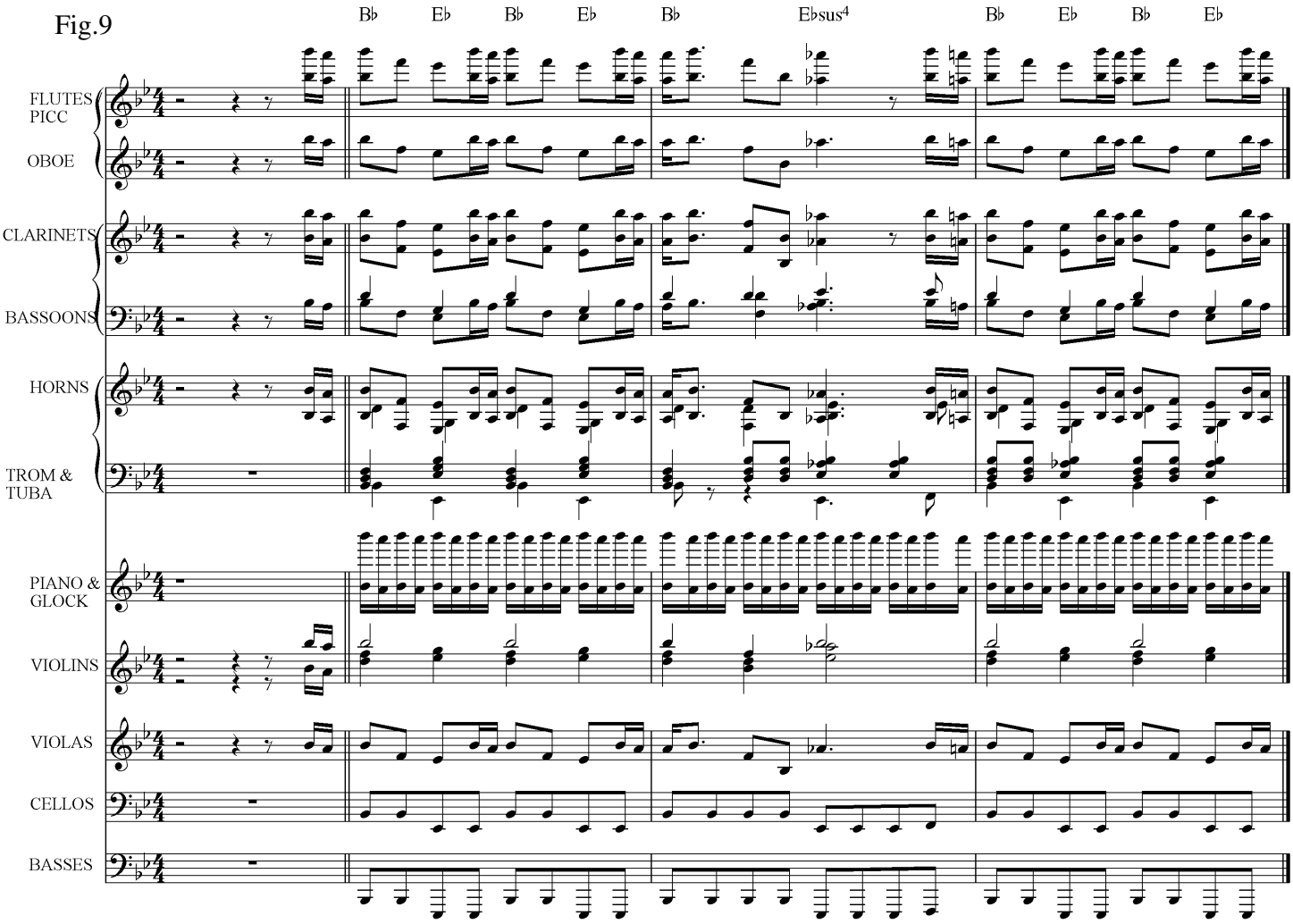
Fig.8



In fact if we look at the whole orchestration for just this small section we can see the melody is shared by elements of woodwind, horns and strings.

Audio - Jurassic Park Theme 01.15 (full orchestration)

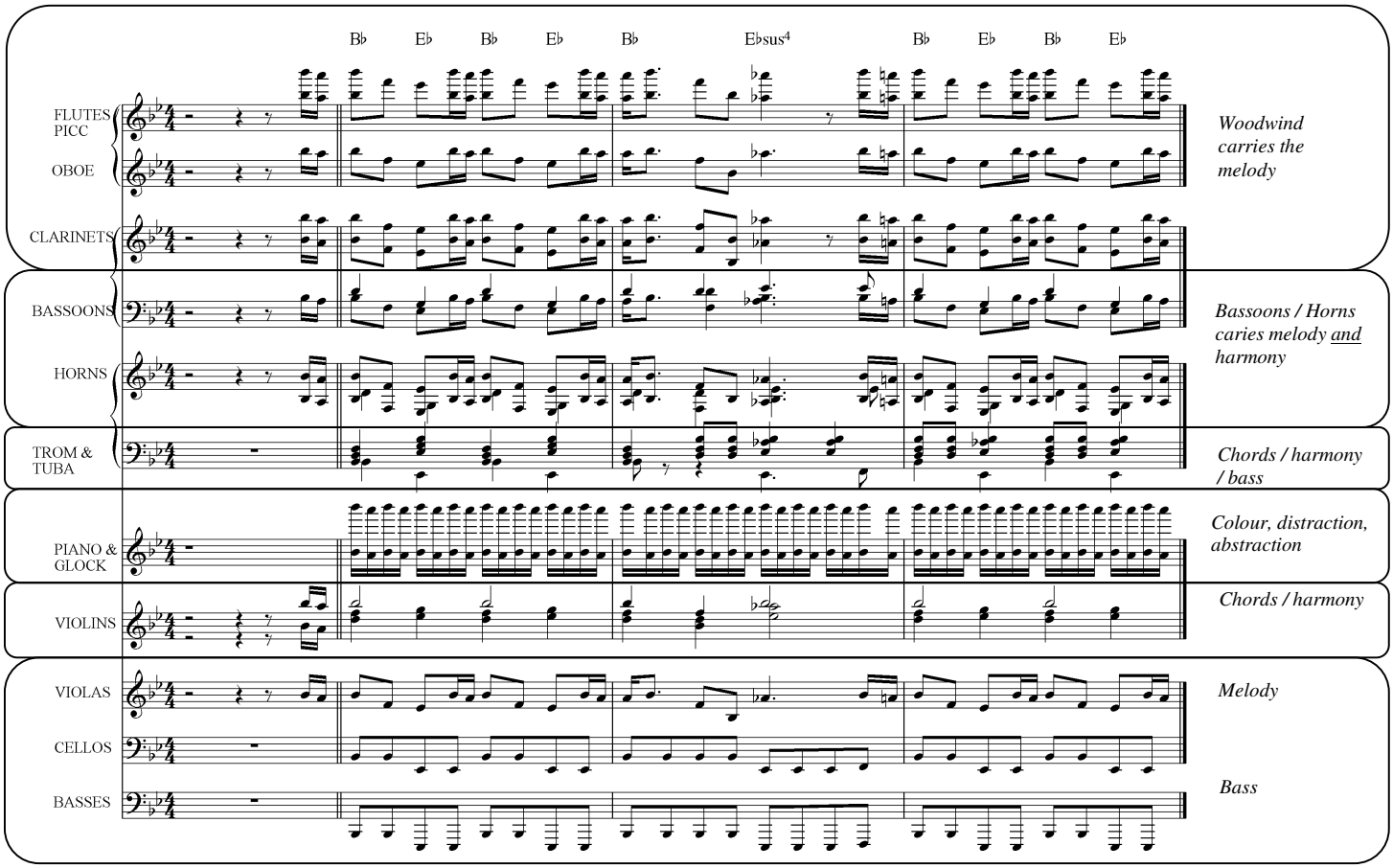
Fig.9



Orchestration by 'function'

This brings us neatly onto another aspect of orchestration: function. Ask any orchestrator how they approach dividing up which instruments play what (and where) and they will probably allude to the fact that rationalising the orchestration in terms of how the different sections 'function' is a key guiding factor. What the different instruments will *bring* to the orchestration is the main concern. What will be their colour, what will be their purpose, why use them? Much though we romanticise the great classical composers, who were normally great orchestrators too, even *they* thought mainly in terms of 'function'. If all composition was simply a result of unbridled romance, passion and unfettered raw emotion, it would lack the structure, the assembly, the organisation and often the sheer pragmatism which undoubtedly binds it together. Conceptualisation might well be about emotion, but the cold hard reality of the need for structure is governed by function. Instruments are not usually decided on a whim or an impulse; orchestration is an architectural process; it is about designing, planning and building a sound. If we look at the section we examined in fig.9 again (below, fig.10) but this time divide the different sections according to function, it provides a different context through which to rationalise the orchestra and what jobs the different instruments and sections actually do.

Fig.10 *Audio - Jurassic Park Theme 01.15 (full orchestration)*

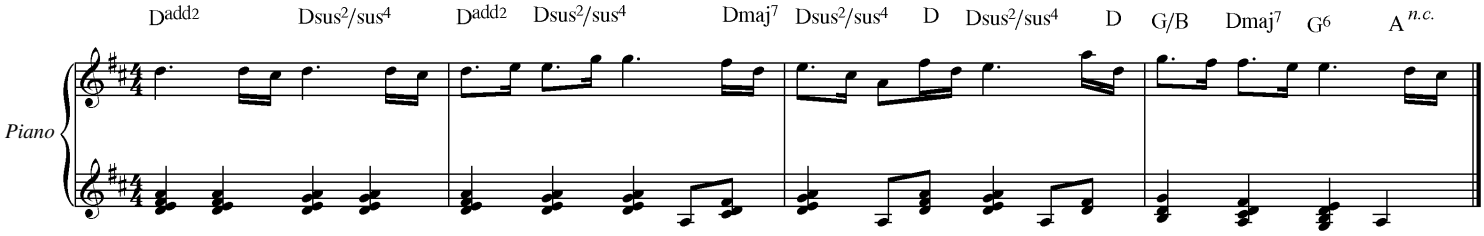


One of the key observations is that 'function' is not purely exclusive to a specific section. Sections do not always *each* do a different job. In the example we're analysing, melody is carried by woodwind, violas and elements of brass. Similarly harmony and counterpoint is provided by violins, trombones and elements of woodwind. Bass is split between low strings and tubas. In other words, function is something which transcends 'section'.

The specific textural qualities of a particular section of the orchestra are rarely responsible for just one function. There is *instrumentation* and there is *function*. These are different aspects of orchestration.

As is typical in film music, the themes come numerous times in various guises employing subtly different orchestration. One reason why themes are often so strong regardless of what complexion or style they adopt is because they are initially crafted in a way which makes the melody distinct and makes it absorb the instrumental terrain and remain clear. One particularly effective version of the 'Theme from Jurassic Park' is to be found at the beginning of the audio track entitled 'Welcome to Jurassic Park'. This version features subtle textures of the piano and the equally delicate brush strokes of cluster voicings.

Fig.11 *Audio – 'Welcome to Jurassic Park'*



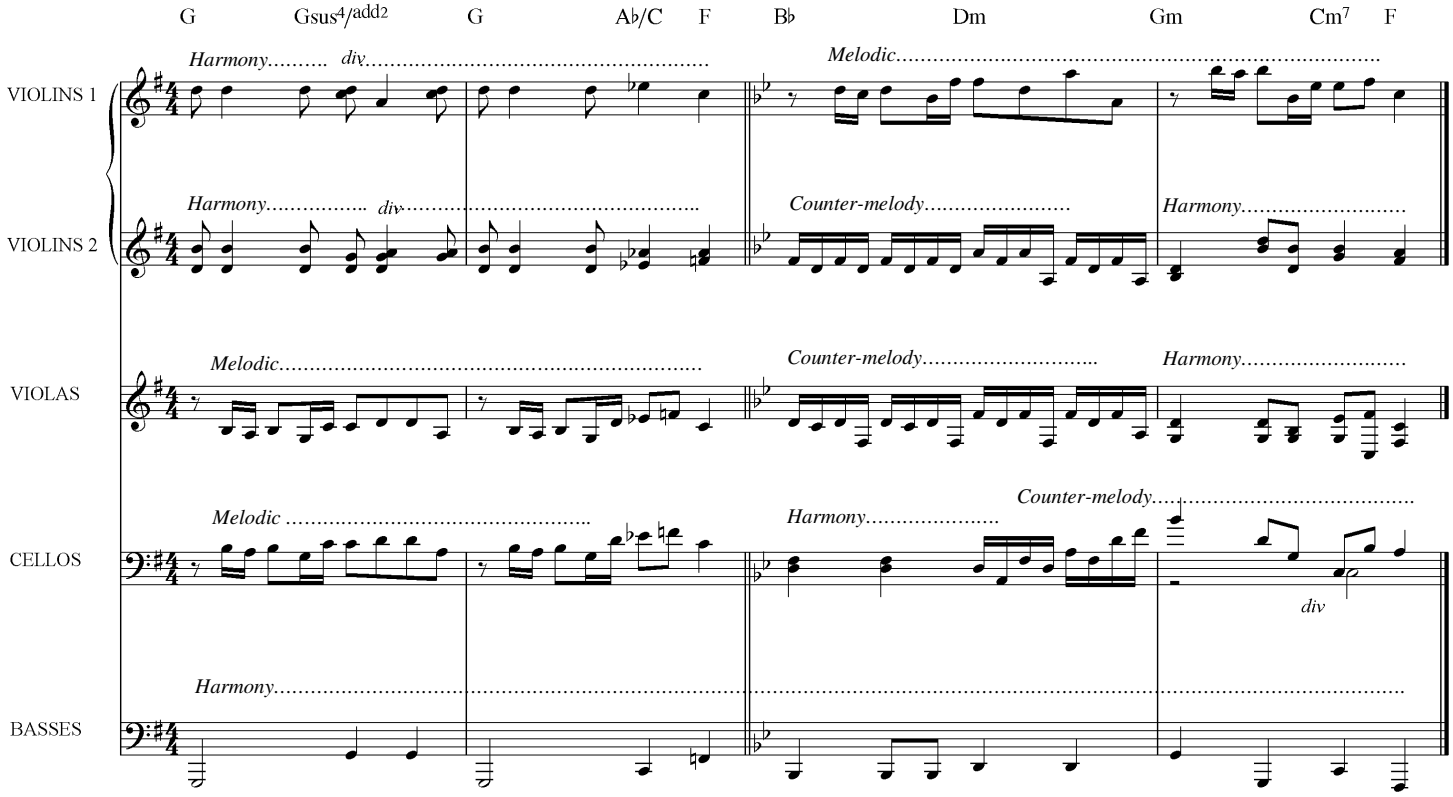
Before we analyse this version its worth pausing for a moment to consider that good arrangers do not only have to excel in writing for groups of instruments, sections or different combinations, but have to be equally adept at arranging instruments such as the piano. The piano is like a pocket orchestra, and the version of the theme arranged for piano (fig.11) looks and sounds like the crafted arrangement it is. What makes this piece work so well is the way the arrangement frames the melody and recontextualises it for a different sound.

Add2 chords normally have unfilled space between the 2nd and the root note. But the notes in the add2 chords in fig.11, played softly on left-hand piano, are clustered closer together and exert a romantic, slightly skewed and melancholic air; the second of the two cluster chords used is the Dsus2/sus4 (bar three). This chord is quite rare as it contains two separate 'sus' devices together, both of which are designed to blur the harmony and the colour of the chord. Normally when using sus chords the major 3rd would be replaced with either the sus2 or the sus4. Using *both* distorts the chord's identity, not just in terms of how you would describe it, but *actually* in terms of how it sounds. This chord gives us four notes grouped together in two groups of two notes, each a tone apart. It lacks the kind of rational and lucid spacing we are used to. There are a couple of other slight tensions, notably the last quaver of bar two where the left hand states the Dmaj7 with the D and C# side by side. The same chord comes on the second beat of bar four. This piece also offers us one more barely perceptible subtle harmonic nuance; in bar three the right-hand melody (E, C#, A) suggests a definite A chord but the accompanying left-hand chord has the double-sus chord. This means there is a slight tension between the bottom D and E and the top melody line C#.

Returning to the theme of orchestration, we have established that 'functions' and 'tasks' (melody, harmony, counterpoint) are not exclusive to any one section. We have also established that even *within* one section of the orchestra different functions maybe fulfilled. The strings do not only *all* play harmony or *all* play melody. Equally the brass section does not either *all* play chords or *all* play melody. Often the best orchestration happens when tasks and function are split.

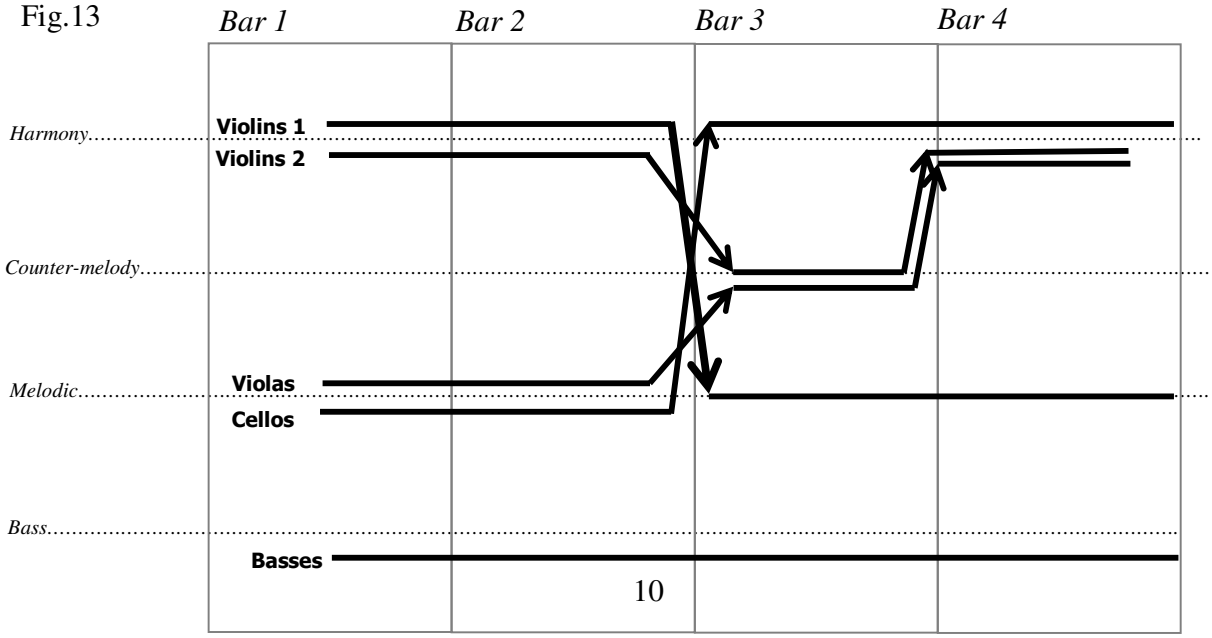
Perhaps a good example of the multifarious string section is to be found at 03.20 into a track entitled 'Welcome to Jurassic Park' where the strings are divided up into different functions which evolve as the section develops. Below are two examples; one is a notated transcription, showing which instrumental lines are melodic or counter-melodic and which constitute part of the harmony. Underneath the transcription is another example which displays instrument names but then shows the different functions at work as they are spread between the different instruments in the section.

Fig.12 *Audio - Welcome to Jurassic Park 03.20*



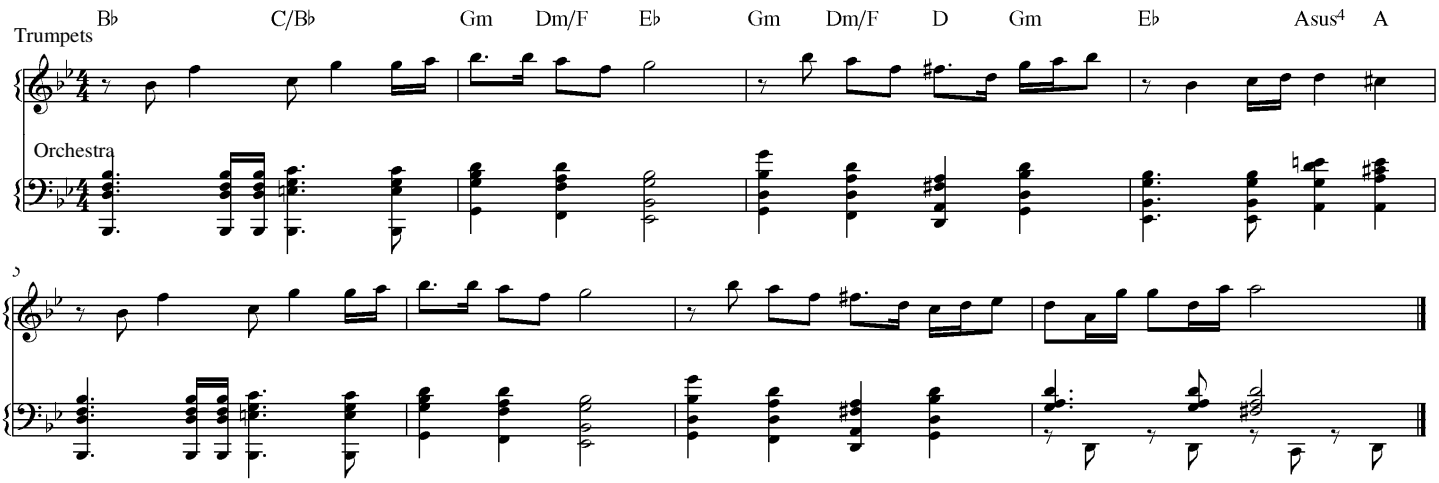
As abstract and bizarre as fig.13 might seem, it is sometimes interesting to look at visual representations of the function of instruments within an orchestra or even a section to get extra perspective. After all, we *hear* function just as clearly as we hear melody and harmony and other devices; we just don't recognise it.
As the four-bar section progresses and evolves the 1st violins contribute to harmony for two bars and in the last two bars play melody. The 2nd violins contribute to harmony for two bars and then play counter melody for bar three before contributing to harmony in bar four. Violas play melody for two bars then counter melody for bar three before contributing to harmony in bar four. Cellos play melody for two bars then divide into harmony for the first half of bar three followed by counter melody for the remainder of the cue.

Fig.13



Another theme analysed is entitled 'Journey to the Island', first heard as the helicopter carrying Dr Grant and the team, approaches the island of Isla Nublar, home of *Jurassic Park.*

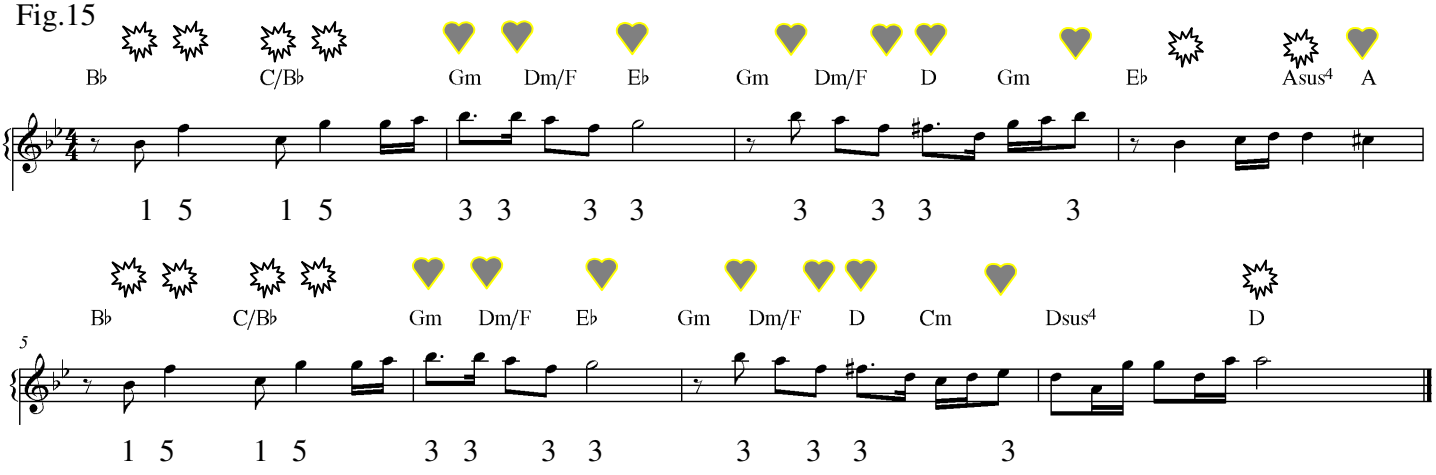
Fig.14 *Audio - Journey to the Island 1.23 Movie – 00.15.46*



The theme is a strong, rousing, dramatic fanfare-oriented piece with the melody carried by trumpets. It has the piercing power and gravitas of, say, *Superman* and *Star Wars* because of its root-5th intervals but also contains colour, emotion and romance thanks to its 3rds. With reference to how basic intervals work (roots, fifths, fourths signifying power and authority; minor and major thirds suggesting emotion) it is interesting to contextualise the piece through the prism of its intervals. 3rd intervals (♥) 4th and 5th intervals (✹)

Audio - Journey to the Island 1.23 Movie – 00.15.46

Fig.15



Do intervals hunt in packs?

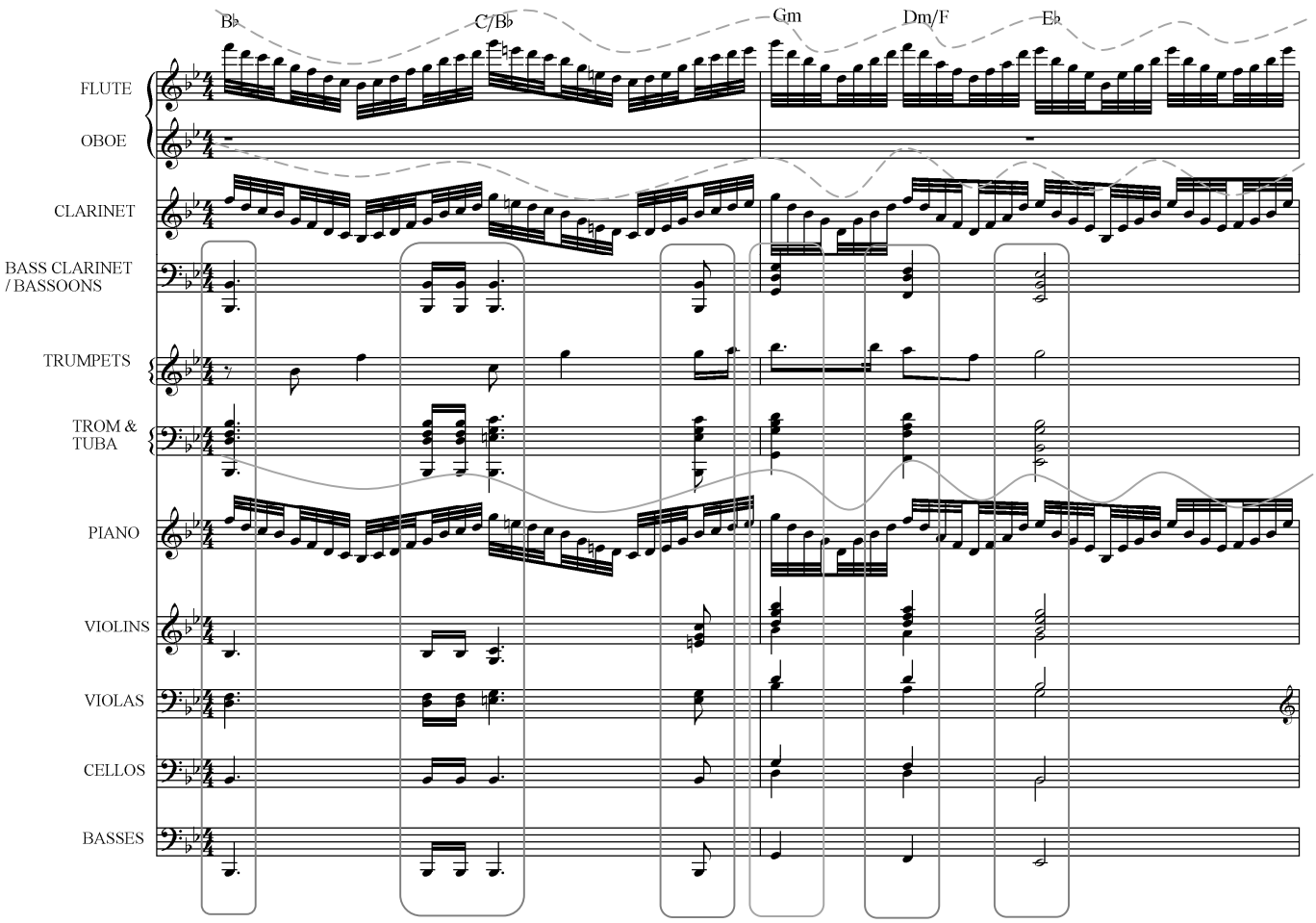
It is interesting to see how intervals group together to illicit a consistent emotional 'arc' and contour. The beginning of each four bar phrase opens with a grand statement using roots and fifths, giving way to a softer more elegant and emotive 'pack' of mainly thirds.

This is not to say composers even realise or care about such things; as far as composers are concerned, they write what 'works' for whatever purpose they require. I merely point it out to shine a light on musical structure and how, time and time again it reveals consistencies and uniformities, almost appearing self-fulfilling with a mind of its own. Composers will gravitate toward what works; *structure works.* Structure contains light, shade, timeliness, appropriateness and suitability. Looking at 'Journey to the Island' in terms of orchestration, below the orchestral score of the same sequence is transcribed.

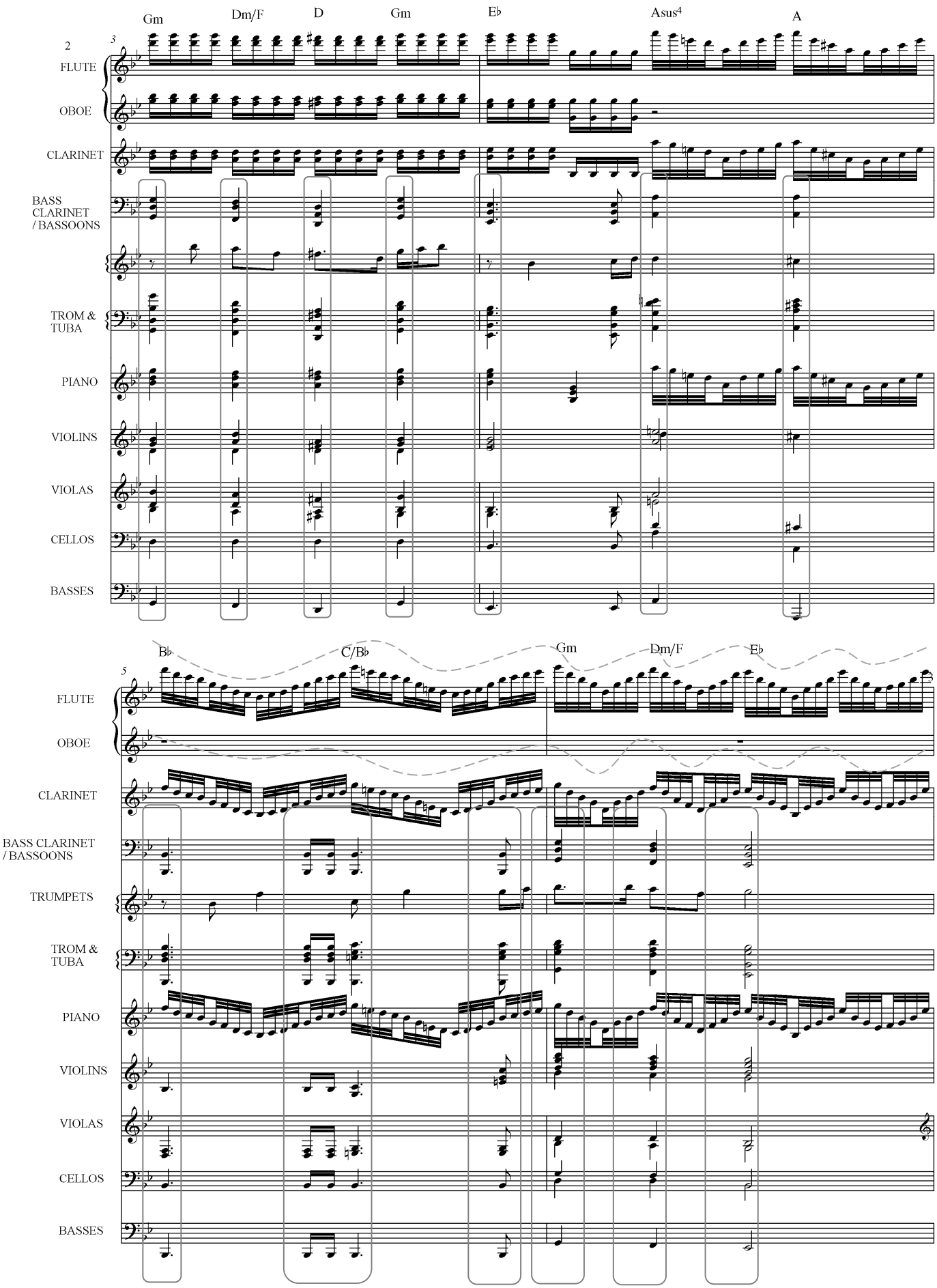
Looking at the score and listening to the track, again we can begin to appreciate the functionality of the orchestration in terms of rhythm, harmony and melody. There are three distinct rhythmic elements: firstly we have the distinctive trumpet melody but secondly the flutes, oboes and piano stating the complex demisemiquaver runs; these could be referred to as 'the bits you think you can't hear but if they weren't there, you'd notice'.

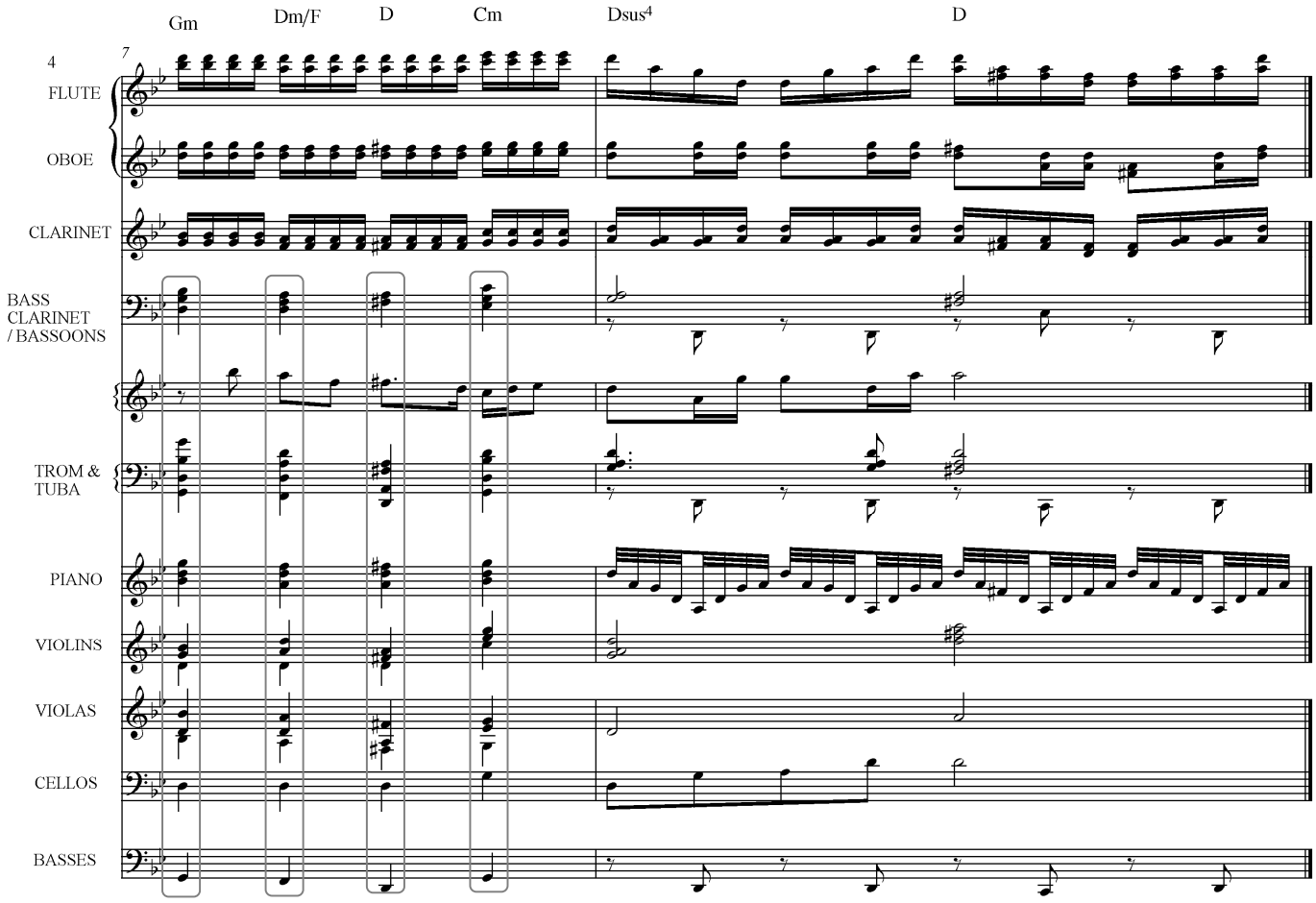
An orchestration is a composite creation and in anything multifarious there are always things we notice and things which, whilst they may not be 'noticed' their inclusion is crucial. And then there are 'the rest' of the instruments, which, if we view vertically, we can see forms the basis of the rhythm.

Fig.16 *Audio - Journey to the Island 1.23 Movie – 00.15.46*



The basic chords and rhythm are shared by low woodwind, low brass and strings


Gm
Dm/F
D
Gm
E♭
Asus4
A
2
3
FLUTE
OBOE
CLARINET
BASS CLARINET / BASSOONS
TROM & TUBA
PIANO
VIOLINS
VIOLAS
CELLOS
BASSES
B♭
C/B♭
Gm
Dm/F
E♭
5
FLUTE
OBOE
CLARINET
BASS CLARINET / BASSOONS
TRUMPETS
TROM & TUBA
PIANO
VIOLINS
VIOLAS
CELLOS
BASSES

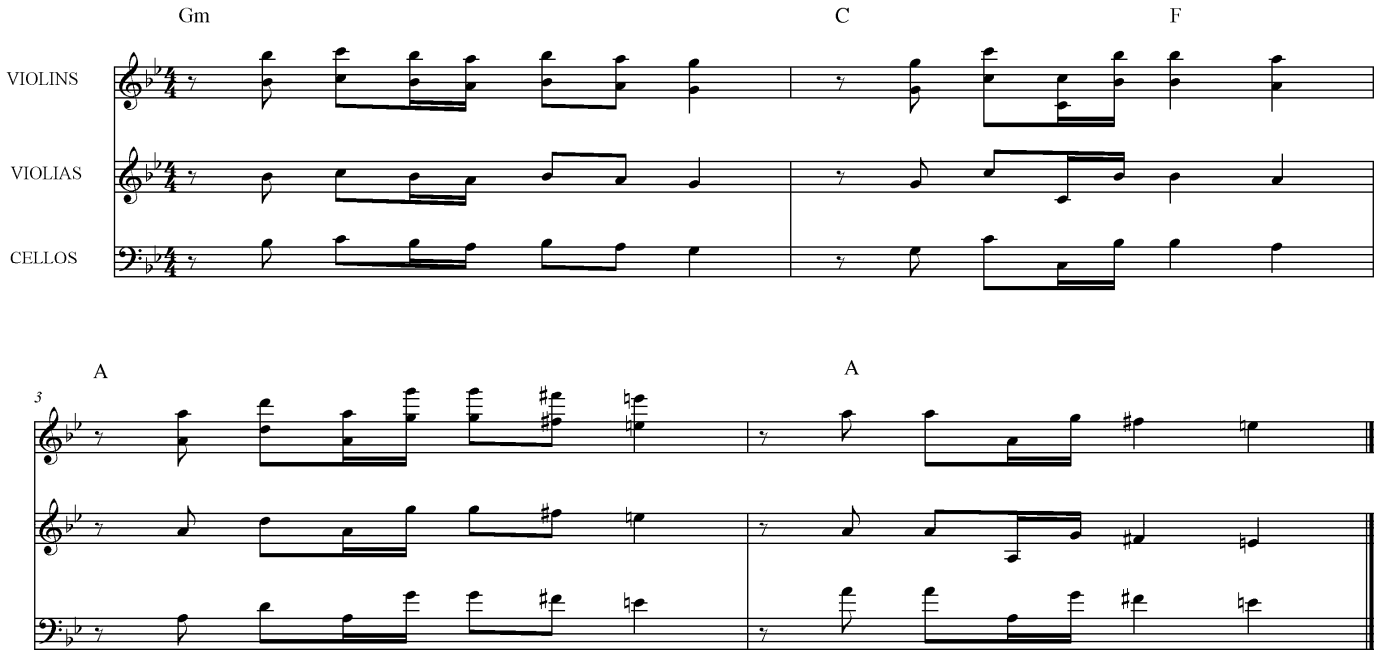


People tend to rationalise an orchestration in terms of the colours created by groups of instruments but if we view instrumental sections according to their function it can be quite revealing, particularly in terms of the vertical and horizontal structures and how this binds the orchestration.

How to grow an orchestration

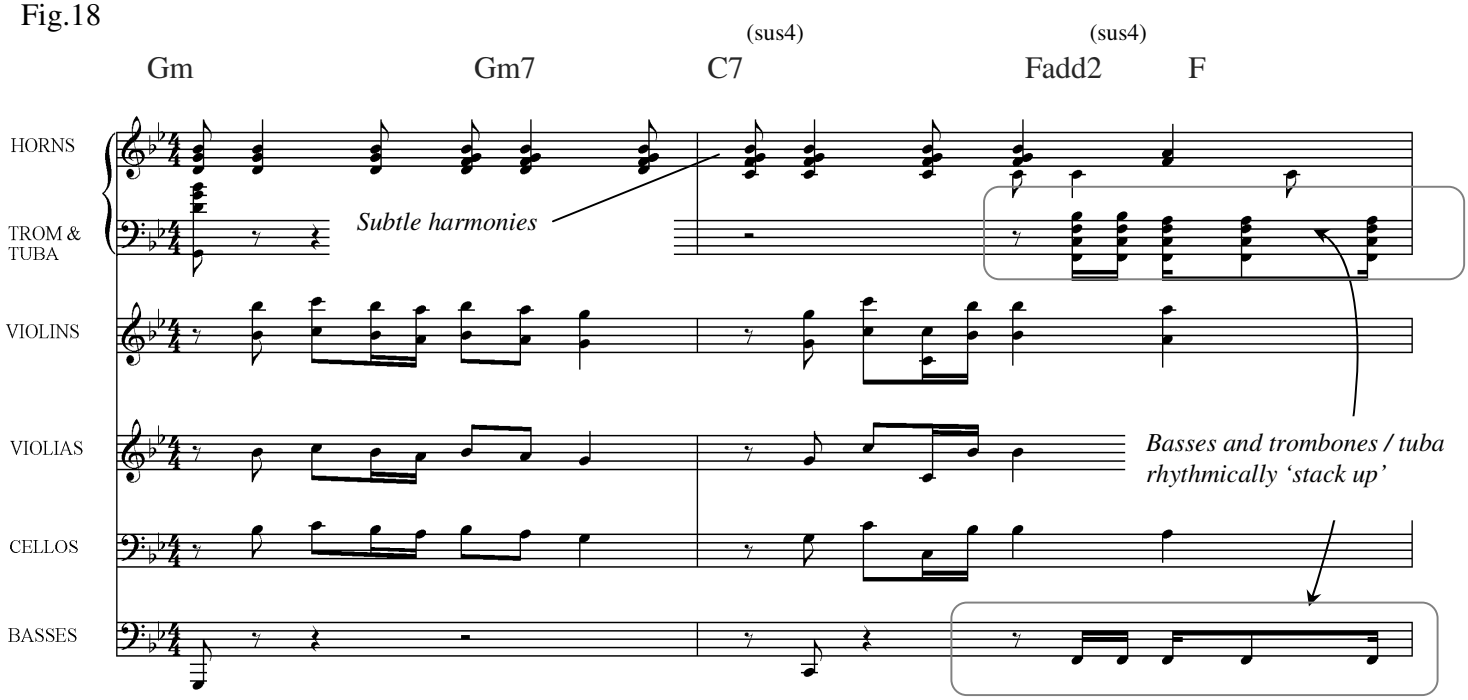
If we turn now to the next section of the same cue and, instead of looking at the whole orchestration, observe it in various stages of construction, we can appreciate how the different instrumental sections slot together like a jigsaw and particularly how its rhythmical aspects connect. The sequence below (fig.17) features only the melody, played on strings. This is a classic example of a 'bulletproof melody line' – a line which is harmonically self-supporting because it is so suggestive of and implicit of particular chords.

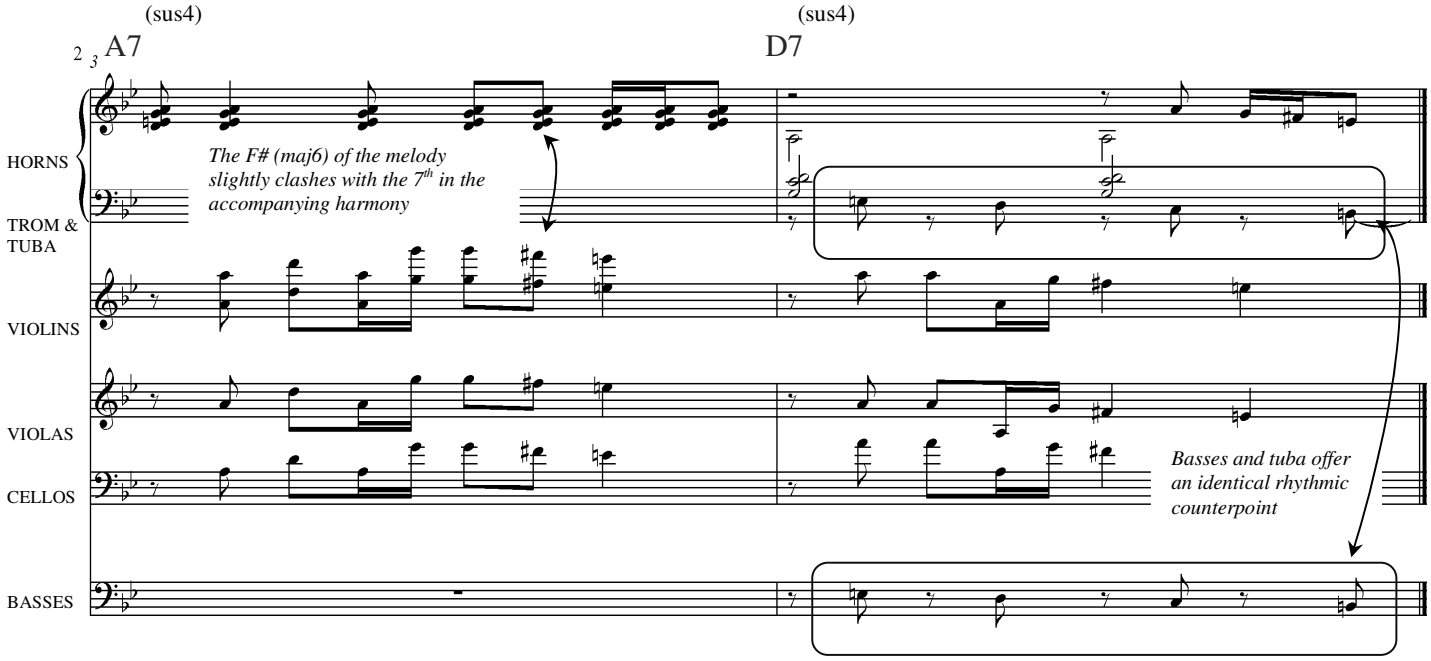
Fig.17 *Audio - Journey to the Island 1.46 Movie – 00.16.25*



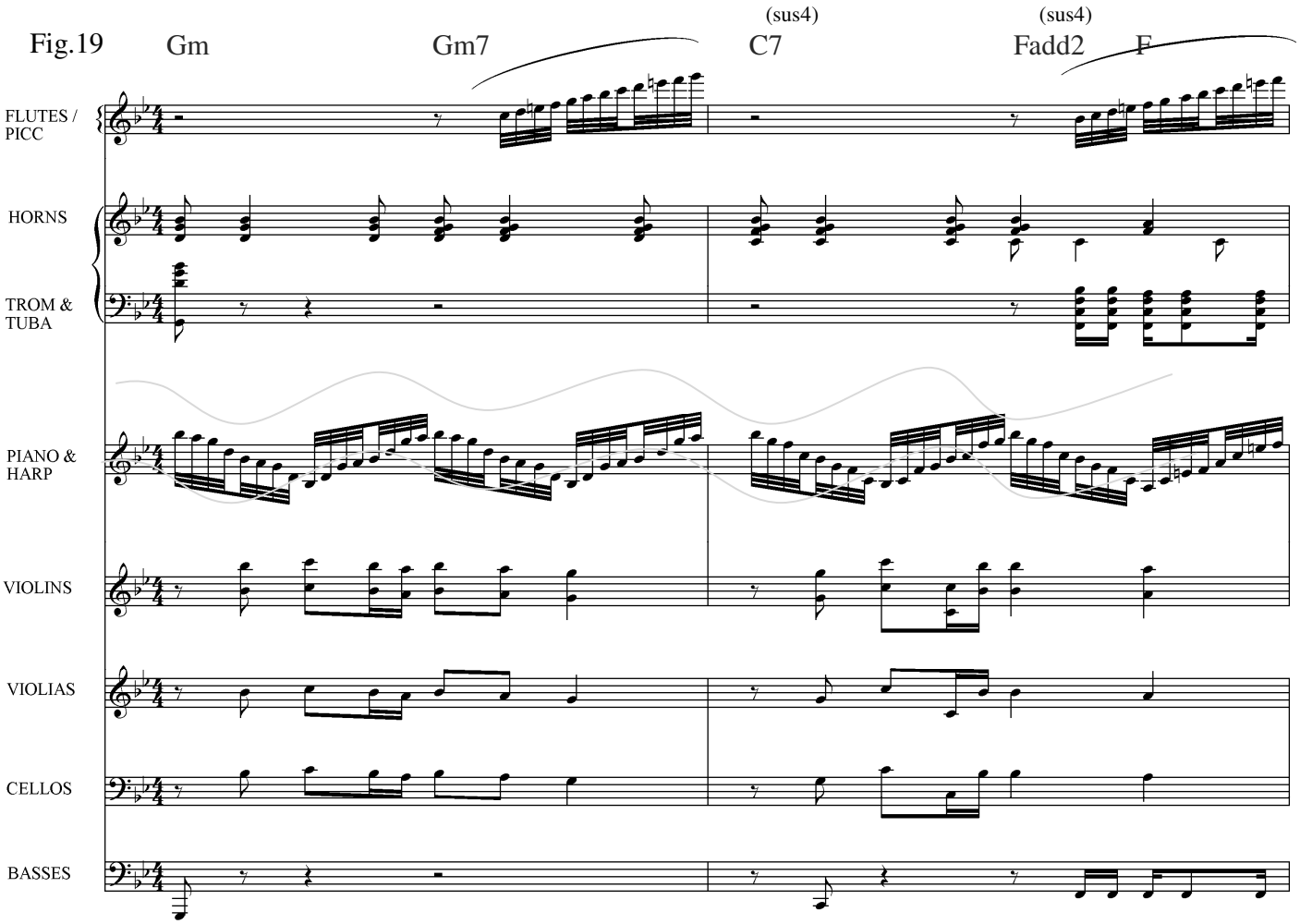
One of John Williams' biggest and most successful attributes is his ability to deliver a simple melody which belies the harmonic complexion that supports it. If the harmony was *as simple* as the melody, a combination of the two would be too simplistic and would lack the kind of harmonic subtleties, intricacies and nuances which so colour Williams' work. Below the same section is transcribed but with the addition of the Horns, which make the harmonies more subtle. Combination chords (ones which feature more than one extension) are introduced to slightly blur the edges.

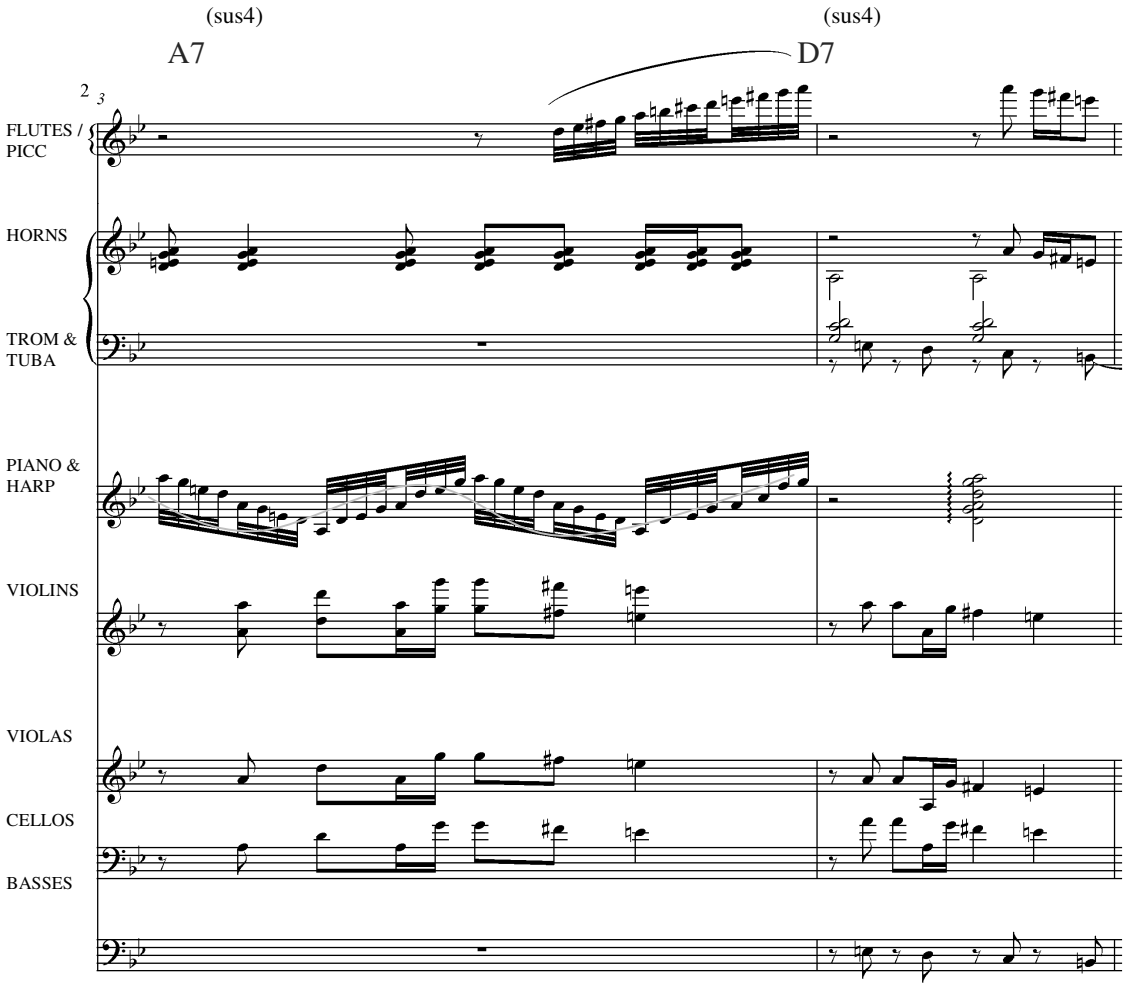
Fig.18





Finally, the complete orchestration of the same phrase, below, displays some colourful woodwind flourishes. Nobody detects the individual notes, except perhaps the first and last of each phrase. Their affect is cumulative, symbolic and subliminal, but without it the piece lacks the variation and distraction such lines offer.





E.T. the Extra-Terrestrial is arguably one of the most iconic science fiction films of the 20th Century and is directed by Steven Spielberg. It tells the story of a boy who befriends an extraterrestrial stranded on Earth. The boy and his friends attempt to keep it hidden before finally helping it find its mother ship and return home. The academy award- winning music was massively pivotal in the success of the movie and in the eyes of many helped the film attain iconic status. The score is memorable, highly suggestive and communicative with some parts being entrancing and exhilarating. It has become immersed into popular culture like few other scores. For the purposes of the book parts of the score to *E.T.* are examined and analysed in terms of melody, harmony but mostly through the transforming power of its vivid and imaginative arrangement and orchestration. Many issues are addressed, such as poly-tonality, cluster voicing, instrumental divisions and of course the spellbinding majesty of the thematic material.

Long-term working relationships between film directors and composers almost universally produce effective scores. Bernard Herrmann wrote successful scores for Hitchcock because they trusted each other; each knew what the other wanted and the longevity of the relationship allowed Herrmann to evolve, grow and produce often ground-breaking scores. Herrmann did not have to fight the tyranny of the temp track and most of all he was allowed the freedom to conceptualise. Steven Spielberg's films are invariably remembered as great movies but are equally memorable for their music. In any great director /composer relationship the main benefit is that the music and film are a perfect fit; one does not crowd the other. They each allow space for the other. Also the movies play a big part in the way we rationalise the music. Just as it would seem absurd to watch a movie without its score, often hearing the music alone can be unfulfilling. Watching a movie is a shared experience where we see the film and listen to the music but also *hear* the film and appreciate the music 'visually' via its association with the film.

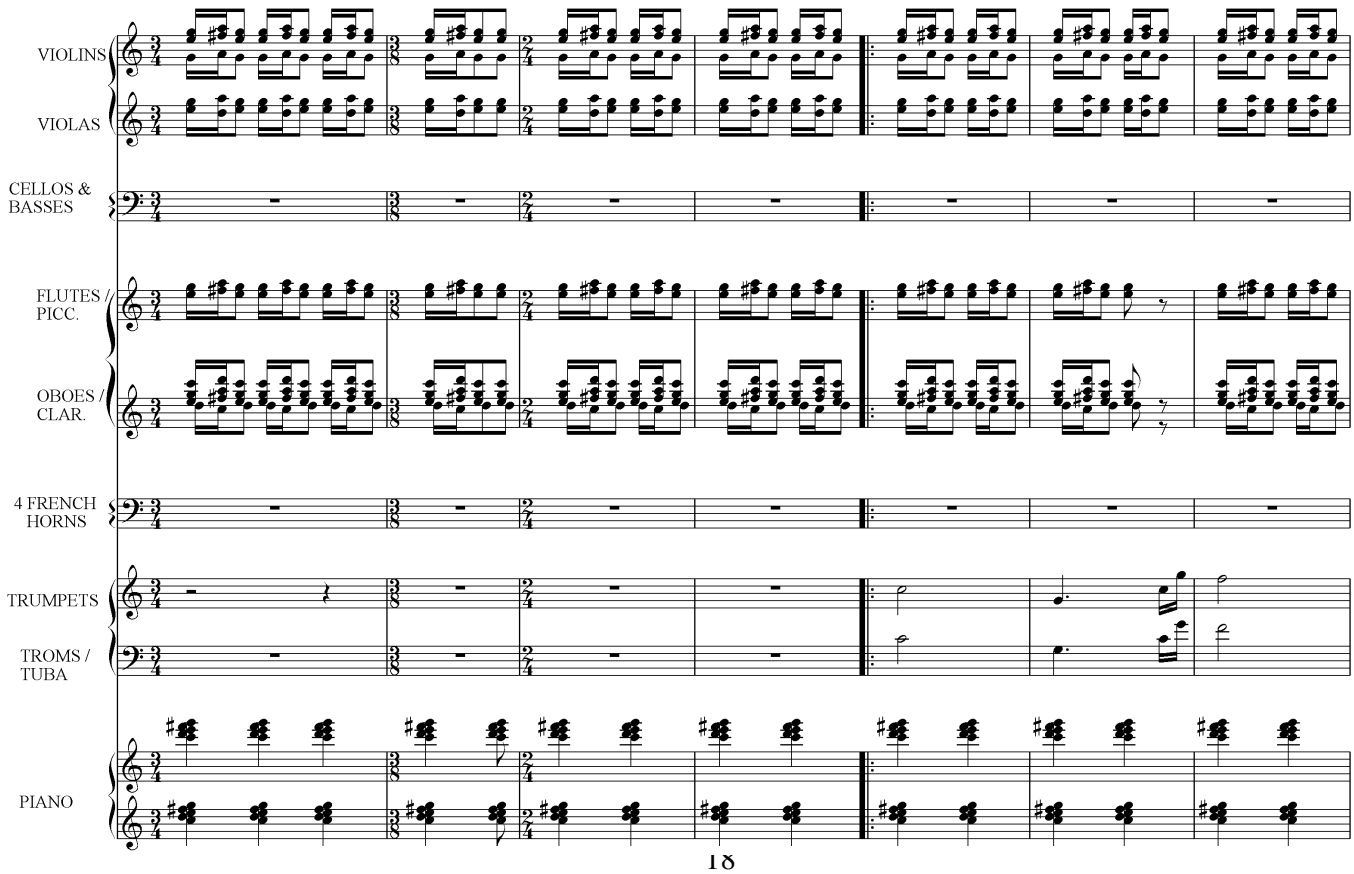
M. Night Shayamalan's long and fruitful relationship with James Newton Howard is interesting too. When working together the director often asked the composer to start writing before shooting had finished or in some cases before filming had even begun; something James Newton Howard had never done. Shayamalan wanted him to respond to an idea, a concept, rather than the finished product. Much of the initial music, therefore, functions as an emotional commentary. Similarly Robert Zemekis gave Alan Silvestri free reign when he composed his memorable score for *Back to the Future*.

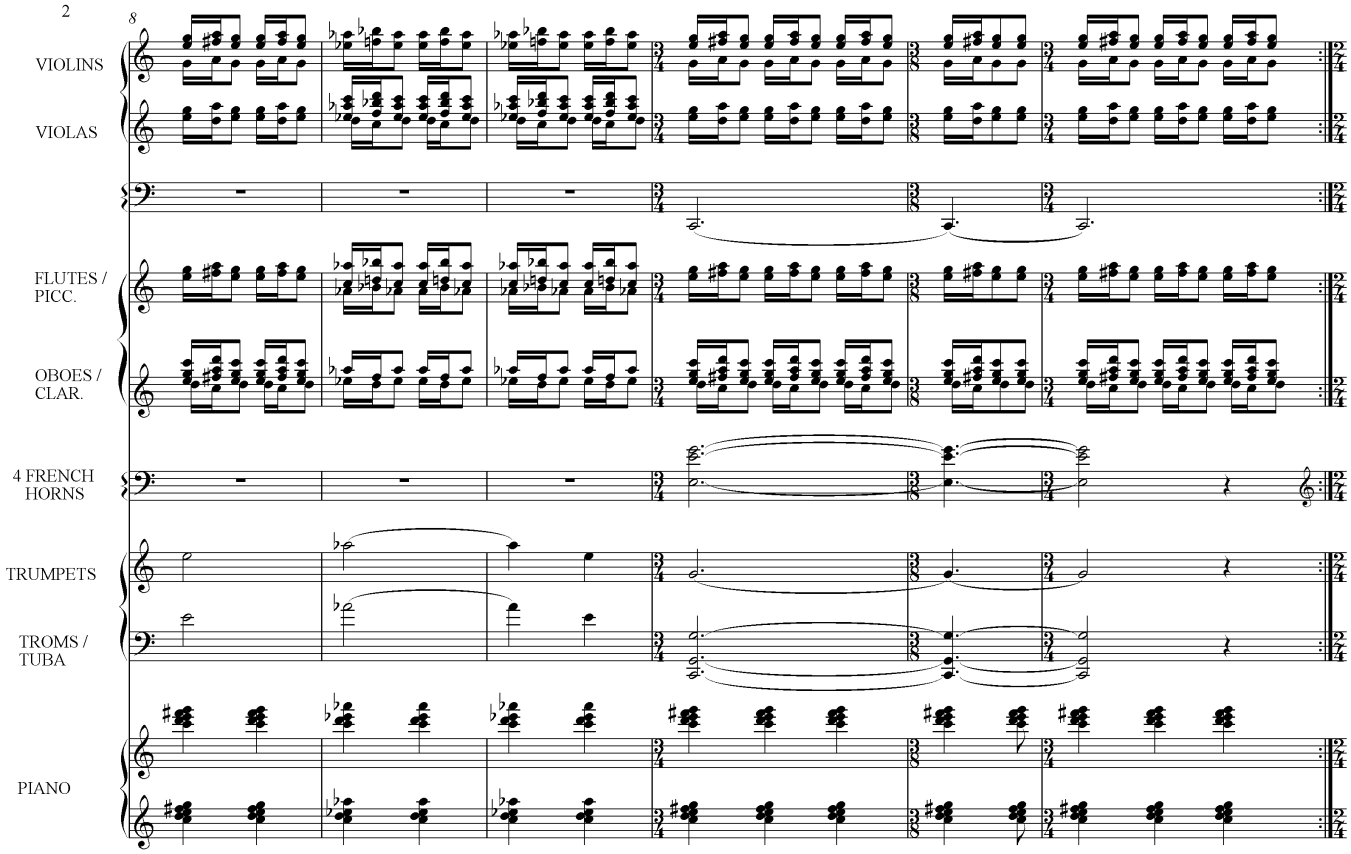
With the exception of a handful of movies, Spielberg's films usually appeal to children and adults alike; perhaps music is one of the main components that truly unify the experience for many. Few people think of *E.T.* without a memory of the music. Equally, few remember *Star Wars* without the music. Who can imagine how *Jaws, Close Encounters, Superman, Raiders of the Lost Ark* (to name just a few landmark scores) would have ended up without Williams' brilliance?

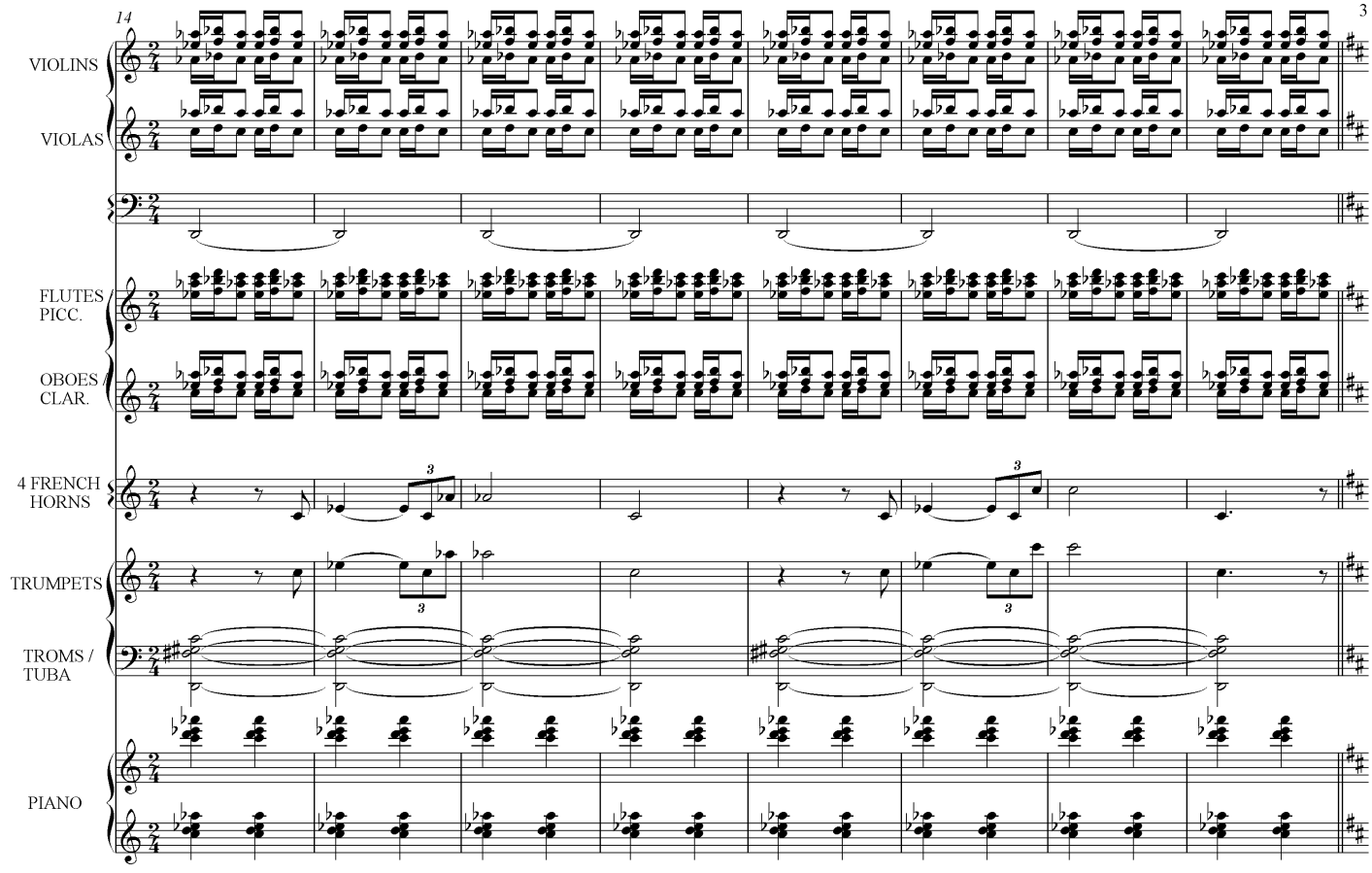
Although *E.T* seems to be principally remembered for its rousing themes, ultimately it is just as much a masterpiece of arrangement and orchestration. People remember it for the memorable thematic material, but one of the main reasons the themes are as spellbinding as they are, is precisely because of the masterful arrangement and orchestration which delivers the music and frames the melodies. This is symptomatic of the vivid arrangements John Williams provides, with their distinctive use of instrumentation, and it is also the result of the great relationship Williams has with his orchestrators, in this case the wonderfully talented Herbert Spencer.

One example which highlights some of the orchestration techniques is to be found 04.23 into a track entitled 'Adventures on Earth'. This features particularly effective use of woodwind, piano and cluster chords which together offer some vivid and colourful polyharmony.

Fig.20 *Audio - Adventures on Earth 04.23*

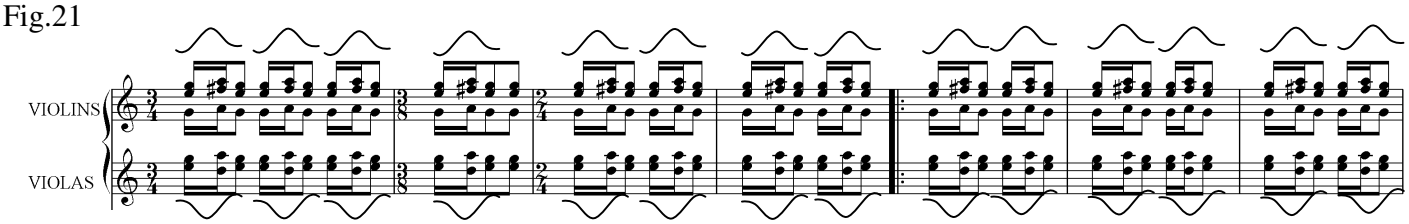



8
VIOLINS
VIOLAS
FLUTES / PICC.
OBOES / CLAR.
4 FRENCH HORNS
TRUMPETS
TROMS / TUBA
PIANO


14
VIOLINS
VIOLAS
FLUTES / PICC.
OBOES / CLAR.
4 FRENCH HORNS
TRUMPETS
TROMS / TUBA
PIANO

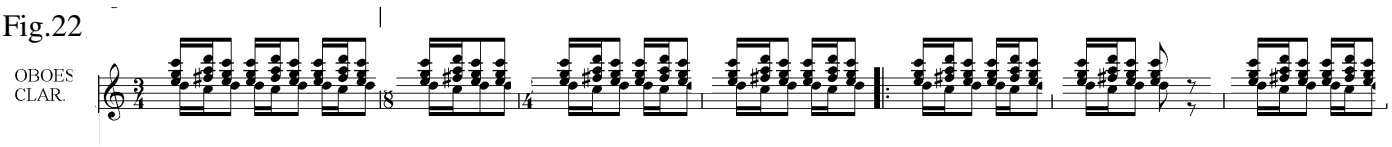
The first thing to note is that the strings play rapidly alternating C and D chords at the beginning of the cue; the chords are too fast to be recognised but the *effect* is felt. The contrary movement between top and bottom voices (fig.21) prevents a feeling of completely parallel movement.

Fig.21



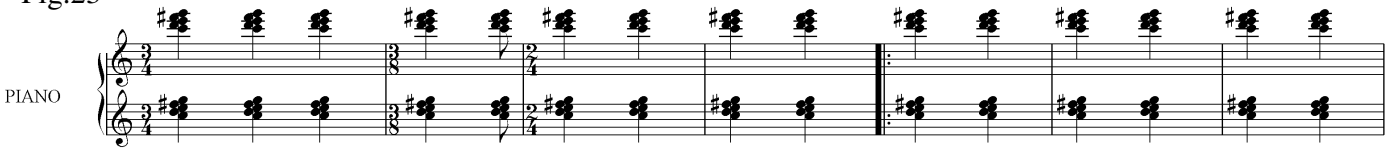
In contrast to the strings, the woodwinds for the same passage state slash chords (C/D and D/C, fig.22). However, given the speed of the harmonic exchange the net result acts to blur the distinction between the C and D, creating a vivid polytonality.

Fig.22



The piano chords in the same section really *are* Polychords, successfully fusing the distinctions between the C and D chords.

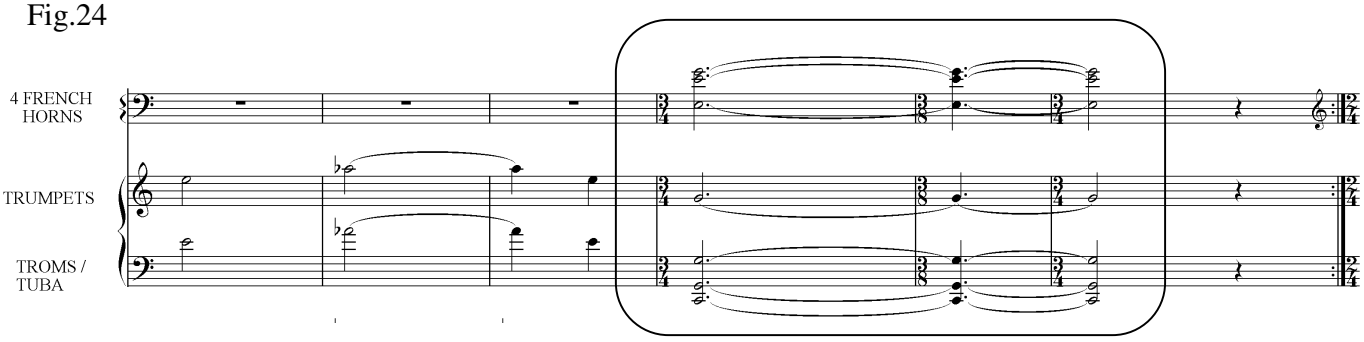
Fig.23



In context of the string, woodwind and piano accompaniment in this entire section, what we hear is too quick to be rationalised properly. Instead we hear a colourful, vivid and bright harmonic accompaniment; C and D chords simultaneously.

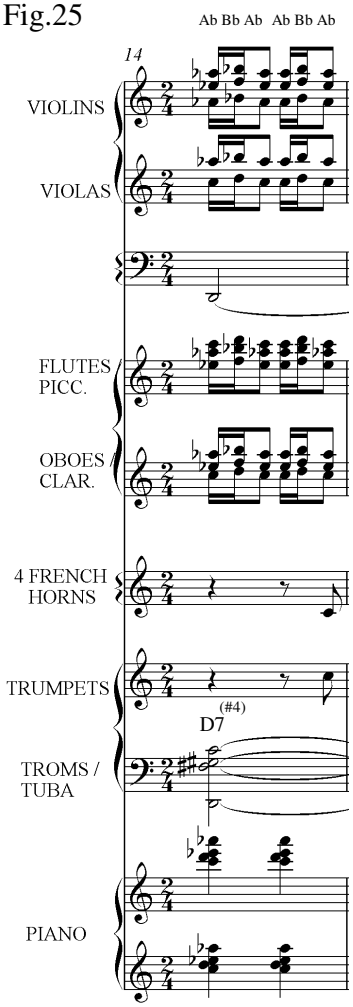
The brass voicing in bar eleven-thirteen of fig.20 (scored out separately below, fig.24) is interesting in the way it distributes the harmonies: tuba and trombones play low root and fifth creating a strong, stark and 'square' harmonic base for the chord. The horns alone give us the colour of the chord in that they state octave thirds (E notes). This may seem like an innocuous point but 'normally' with a chord like this you might expect to find the 3rd in trombones (e.g. from the bottom upward 1st, 5th, 10th). This splitting of the horns, trombones and tuba in terms of intervals gives intervals a specific, raw texture.

Fig.24



If we examine the distribution of harmony in bars fourteen-twenty one of fig.20 we begin to understand and appreciate the complexities of the orchestration and the breadth of harmonic diversity and colour it brings (see fig.25).

Fig.25



Bar fourteen of fig.20 is featured separately (left, fig.25). The strings and woodwind feature different interpretations of the Ab to Bb chord change: the strings are built over *1st inversion* (e.g. Ab/C, Bb/D); the piccolos and flutes are built over the *2nd inversion* (Ab/Eb, Bb/F) and the clarinets and oboes are built over the *1st inversion*. This simple method of varying the precise complexion of the chords is crucial to avoiding any sense of parallel voicing in different sections.

Once again the fluctuation between Ab and Bb chords is too fast to comprehend, so we are left with a polyharmonic 'feel' – a blurring of two chords. This is further blurred to by the subtle difference in piano part, which states an Ab/C with the added #4 (D note).

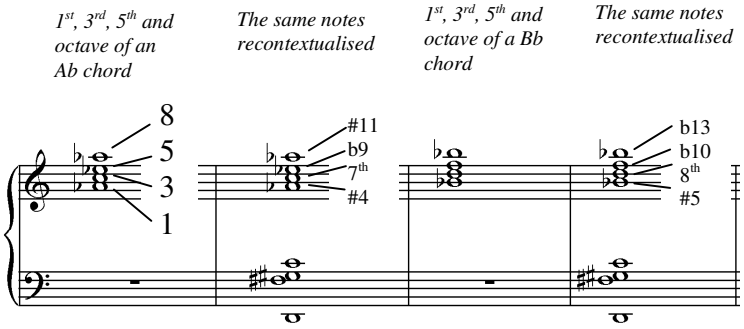
Perhaps the most typical and spellbinding Williams trick is in the way the Ab and Bb chords interact with the D7(#4) stated by the tuba and trombones. The 10th interval between the low D and the F# above adds real palpable richness to the voicing.

The addition of the D7 chord would, on face value, create a polychord between *it* and the Ab and Bb chords, but in essence this presumption is not entirely accurate because most of the notes contained in the Ab and Bb chord 'work' as extensions within the D7 chord.

The effectiveness of the D7 (#4) lies in the way it appropriates, embeds and recontextualises the elements of the Ab and Bb chords stated by strings and woodwind: the C of the Ab chord functions as a 7th of the D chord and the Ab note in the Ab strings and woodwind chord constitutes a #4 of the D7.

Equally when you apply the Bb chord stated by strings and woodwind over the D7 chord, the Bb functions as a #5th and b13 and the F functions as a b10

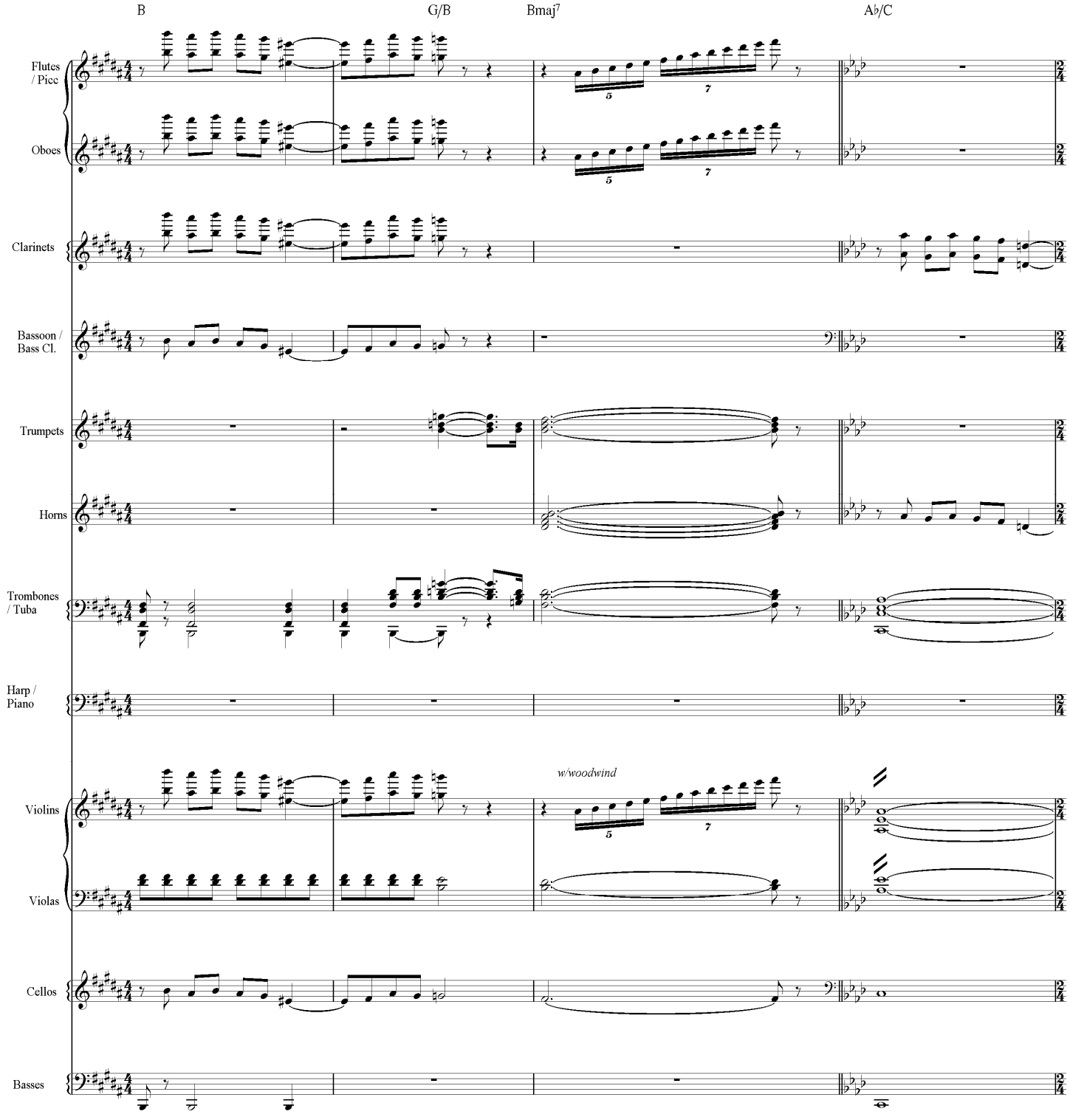
Fig.26

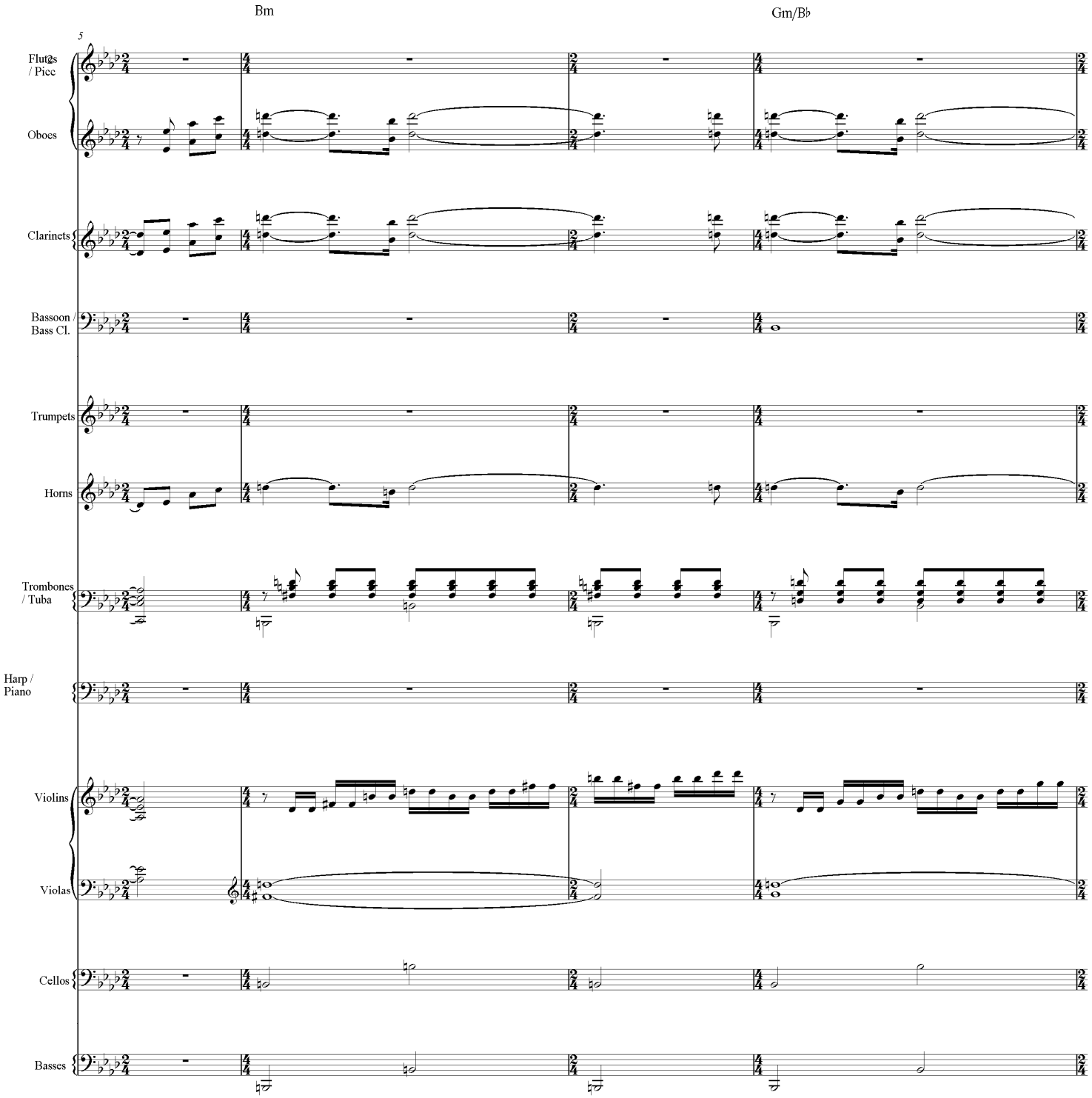


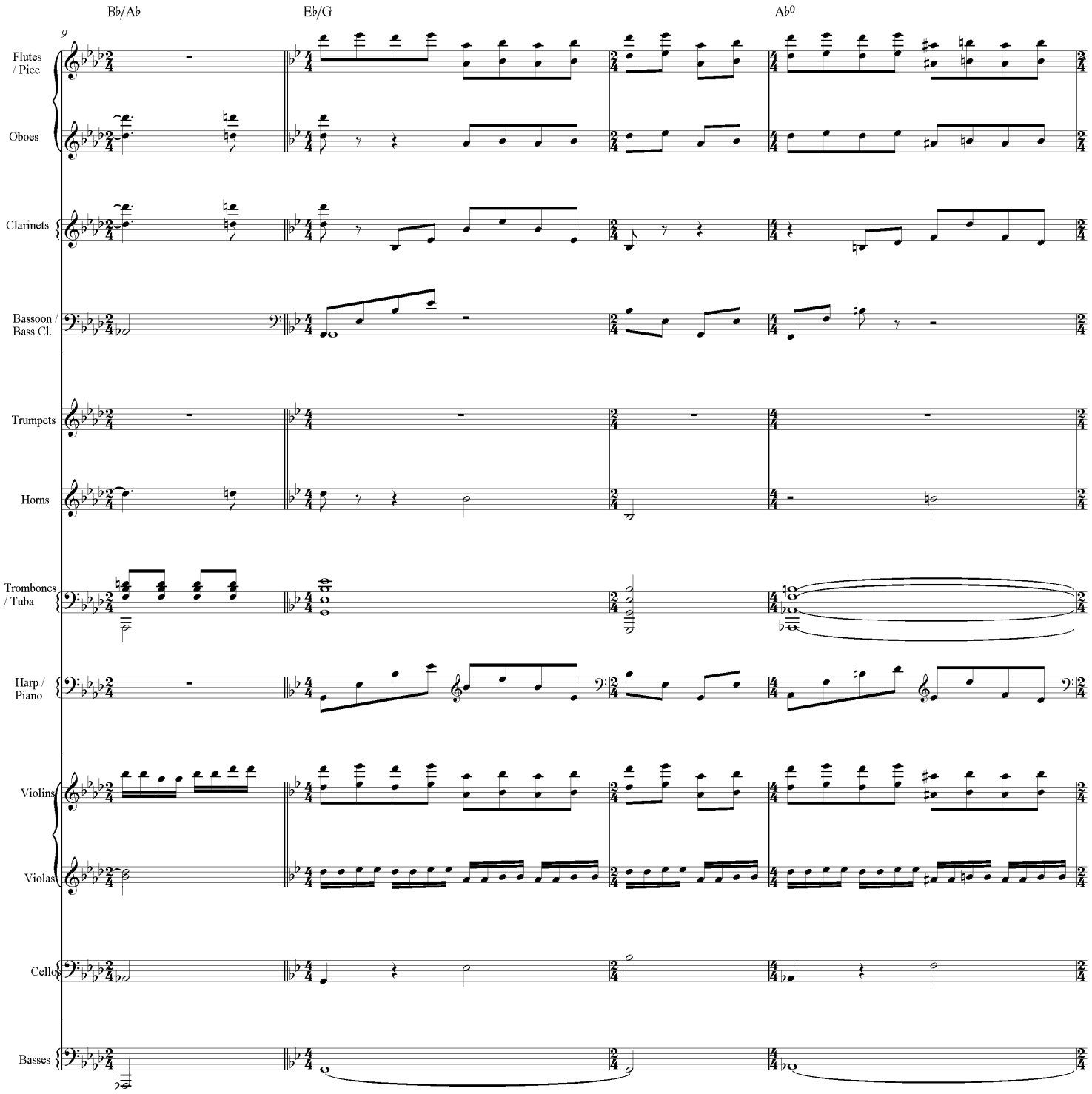
Thus the harmonic colour generated by placing fluctuating Ab and Bb chords over a D7 chord is extreme and vivid.

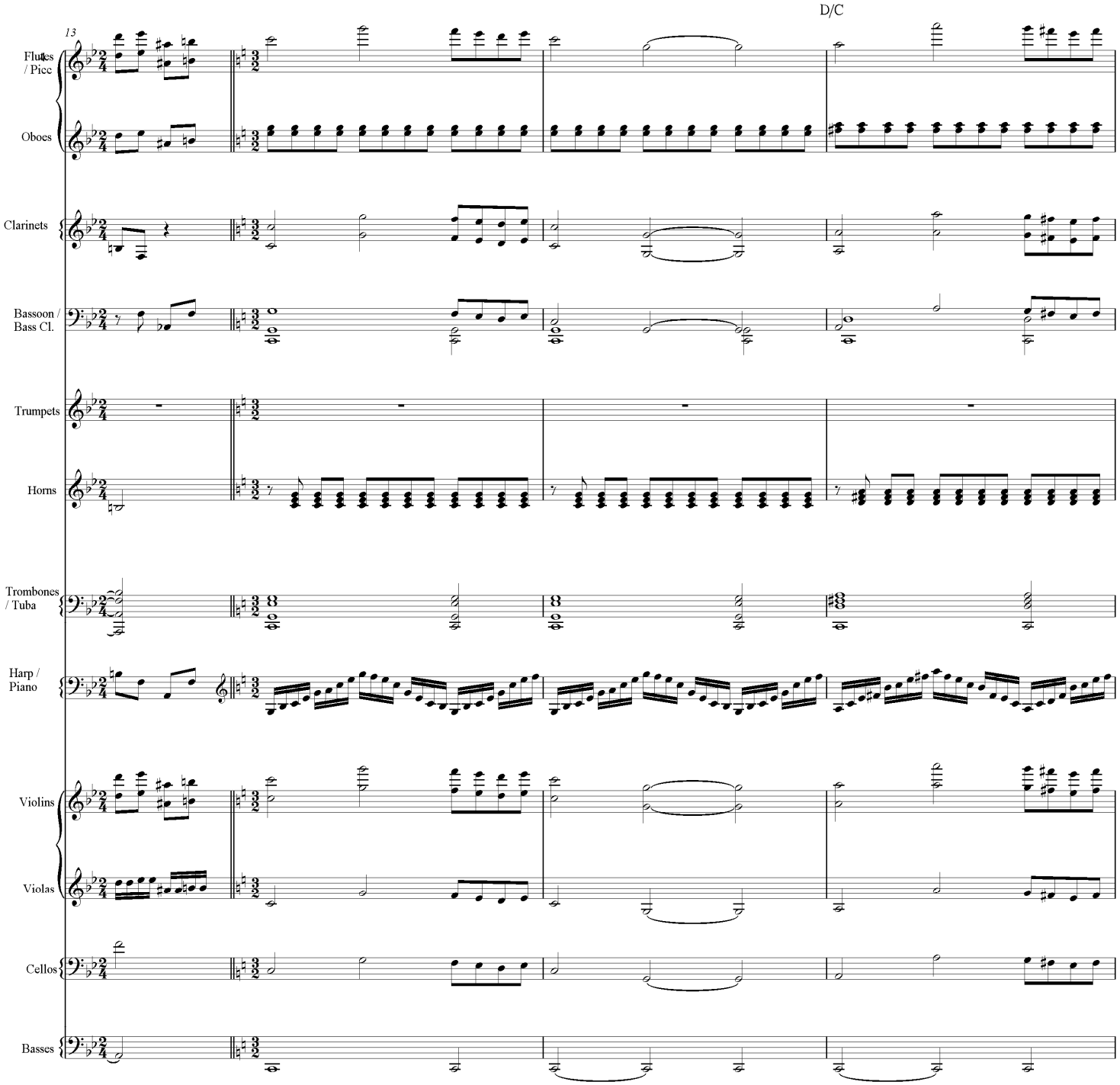
Another section from the same piece which features particularly effective orchestration comes in the build-up to a restatement of the main iconic theme.

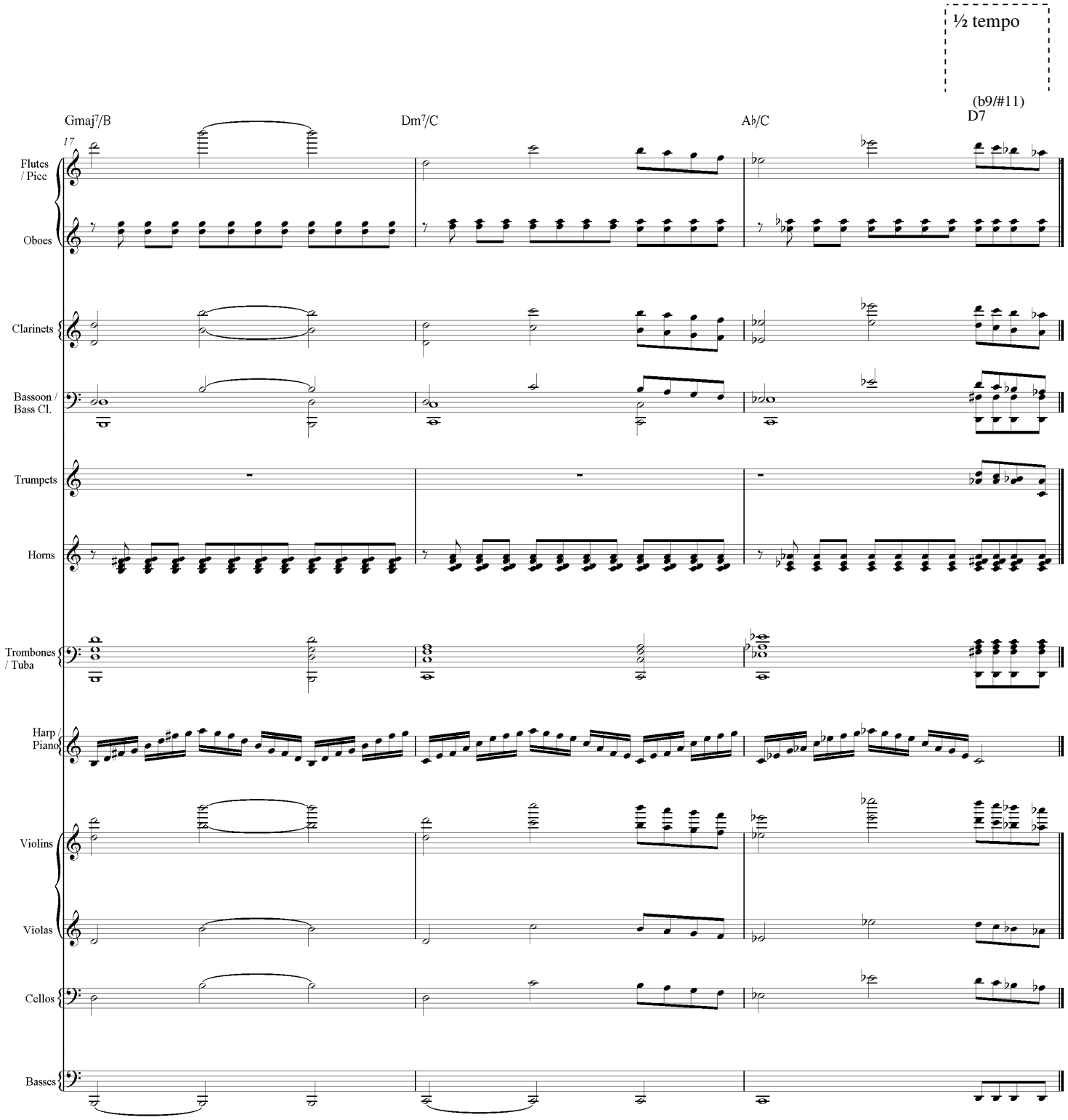
Fig.27 *Audio - Adventures on Earth 13.24*




Bm
Gm/B♭
5
Flutes / Picc
Oboes
Clarinets
Bassoon / Bass Cl.
Trumpets
Horns
Trombones / Tuba
Harp / Piano
Violins
Violas
Cellos
Basses


B♭/A♭
E♭/G
A♭0
9
Flutes / Picc
Oboes
Clarinets
Bassoon / Bass Cl.
Trumpets
Horns
Trombones / Tuba
Harp / Piano
Violins
Violas
Cello
Basses

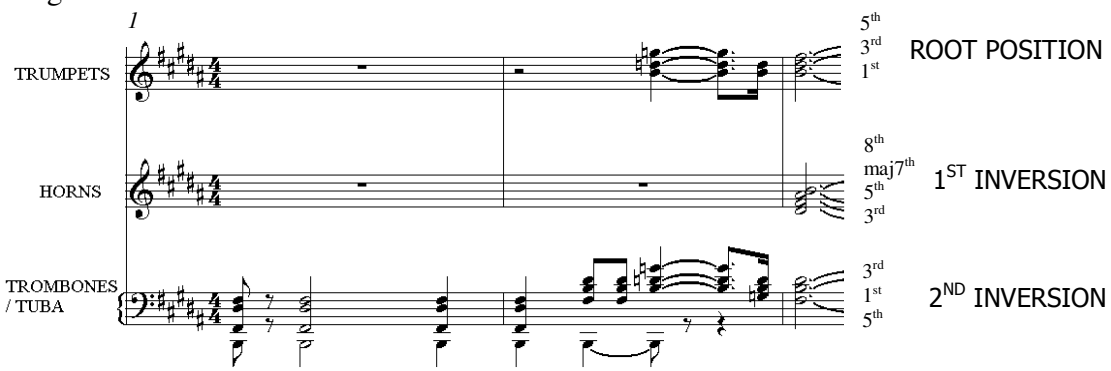

13
D/C
Flutes / Picc
Oboes
Clarinets
Bassoon / Bass Cl.
Trumpets
Horns
Trombones / Tuba
Harp / Piano
Violins
Violas
Cellos
Basses



When examining the first bar of the piece we cannot escape the importance of the #4 in

the strings/woodwind melody, particularly as it is italicised by note (E#) lasting the longest amount of time of any note in the bar. The #4 immediately makes the line mysterious and enigmatic. But if we examine the transcription in terms of how the orchestration contextualises and 'frames' the music we begin to notice several areas of interest, some of which explain the clarity, crispness and vividness of Williams' music. The first is the exquisitely tightly voiced Bmaj7 chord in the Horns (bar three, fig.27); maj7 chords traditionally have the extension voiced sensitively, in such a way as to avoid an obvious or overt clash with the octave. If we observe the Williams voicing (voiced separately below, fig.28) we see the trumpets voiced brightly in root position, the trombones voiced over a 2nd inversion and the Horns in a 1st inversion position which italicises and exposes the clash between the A# and the B.

Fig.28

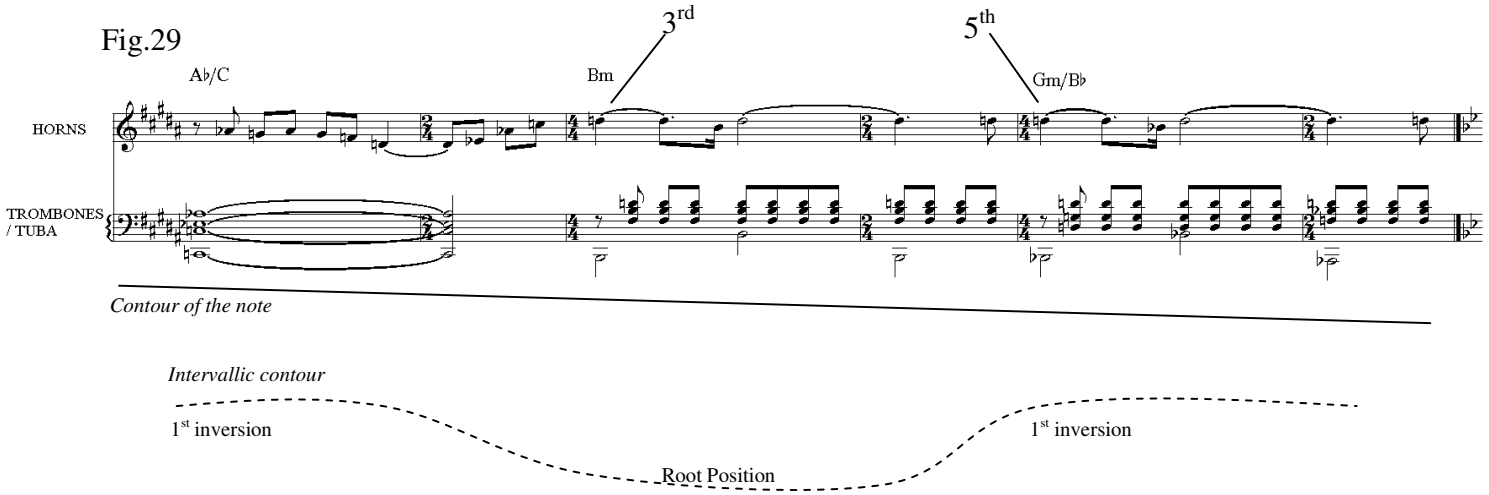


The brightness of the sound is down to the instrumentation, the specific voicings of the chords and their comparative lack of any lower register context. The closeness of the maj7 and octave is slightly softened by the fact that the chord is built on the F# trombone. Indeed the relationship between the lowest note (the F# - 2nd inversion on trombone) and the major 7th (A#) on Horns, creates a competing harmonic identity (compound maj3rd interval) which runs parallel to the actual chord. The lack of a low root note fractionally blurs a chord already distorted by the maj7-octave clash in the horns. These various harmonic relationships help to add real excitement to the chord.

Linkage between subsections

From a purely orchestration perspective it's helpful to realise that the bottom note of the trumpet (B) is duplicated in the top note of the horns, and the bottom note of the horns is replicated in the top note of the trombones. This is a good voicing tactic to remember; it succeeds in creating a link between the various members of the brass section and strengthens the chord. Because of this the B and D# will penetrate slightly more due to the combined effect of the specific sonic make-up and slightly and subtly different textural qualities.

Bar four of fig.27 (abbreviated separately below, bar three, fig.29) shows some interesting harmonic colour; the high, penetrative D note (highlighted) appears three times, as a #4, as a min3rd and as a 5th. The reason this intervallic re-contextualisation is so effective is because it runs parallel to change in the underlying harmony, from Bm to Gm/Bb. In fact the whole six-bar phrase is particularly effective because, via the use of inversions, the bass line has its own consistent and downward identity. The intervallic identity of that same bass line goes from 1st inversion, to root to 1st inversion; I mention this not to highlight an obscure theoretical point but because these contours and characteristics are part of the reason the piece communicates so dramatically and so vividly.



The section at bar ten-twelve of fig.27 is again effective thanks to the drama created by the inverted Eb chord moving to the climactic diminished chord, extra drama being created by the upward semitone bass line. The release caused by the final move to the main theme (bar fourteen) is palpable and ensures the theme is delivered well. The momentous theme from *E.T.* with its root-5th beginning is known the world over, but in this context what makes the theme work so brilliantly well is the expert delivery; the gradual dramatic build-up via the inverted Eb and Ab diminished chord. The piece has an almost sensuous sublime inevitability to it. The final release when we hit the main theme is astonishing. As alluded to, bar fourteen of fig.27 reprises the iconic theme from *E.T.* ('The Flying Theme'). We will be looking in much more detail at the theme later in this chapter but this particular orchestration of it (which is different from the main version in the audio track 'The Flying Theme') is notable for the theme itself being stated across four octaves, which is rare and includes the low celli and high woodwind. This gives the melodic line an expansive texture which penetrates the orchestration and adds real depth. The harmony is mainly stated by trombones and tuba with French Horns and oboes playing an accompanying quaver motif. The ending of the theme in this particular version of it is spectacular as the quavers go to 'half time' bpm, stating a very 'E.T.' chord, one which appears several times in the earlier part of the 'Adventures on Earth' cue and in the main version of 'The Flying Theme'; the D7 with the b9 (Eb) and #11 (Ab). This chord works well because in essence it is polyharmony, featuring an Ab7 over a D7 chord.

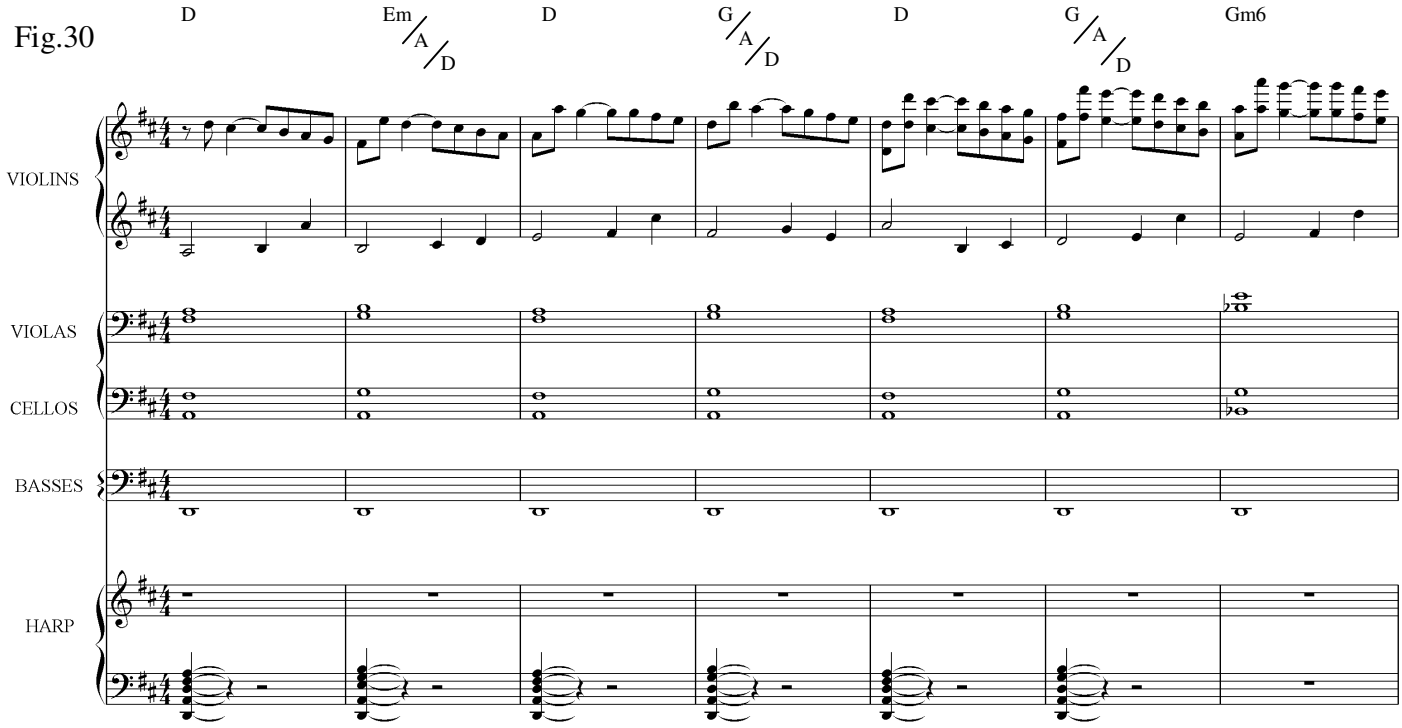
Perhaps one of the finest examples in the history of film music of the power of counterpoint is to be found at 10.50 into the same piece ('Adventures on Earth'). This section (transcribed in fig.30) features two melodic phrases, hitting a selection of colourful and communicative intervals, supported by rich and expansive orchestration. When devising chord voicing, often the biggest gaps are to be found between the lowest note and the next one up, thus avoiding 'lumpy' dense voicing low down. This is something orchestral writers and orchestrators do as a matter of course, without thinking.

What is interesting about this section, adds to the richness of the voicing and is typical of John Williams is that the chords in bars two, four and six subtly imply two simultaneous chords. Bar two contains (from the bottom, up) a D, A, E, G, and B. This constitutes an Em chord over an A bass which is *itself* over a D bass. What this sounds and feels like, therefore, is a stark and bare root and 5th of a D chord (D and A) over which is laid an Em triad. The combined harmonies, particularly the stacked D-A (5th) and A-E (5th) create a kind of dense, square and exquisite 'wall of harmony'. Bars four and six operate in a similar way, this time with a G chord over an A bass over a D bass.

What this sounds like and feels like is a bare root, 5th and octave D chord underneath a G chord. Once again this creates a vast wall of harmony which sounds square, solid and full (but not lumpy) – not because of the number of notes but because of what they are, their placement and what intervals they state.

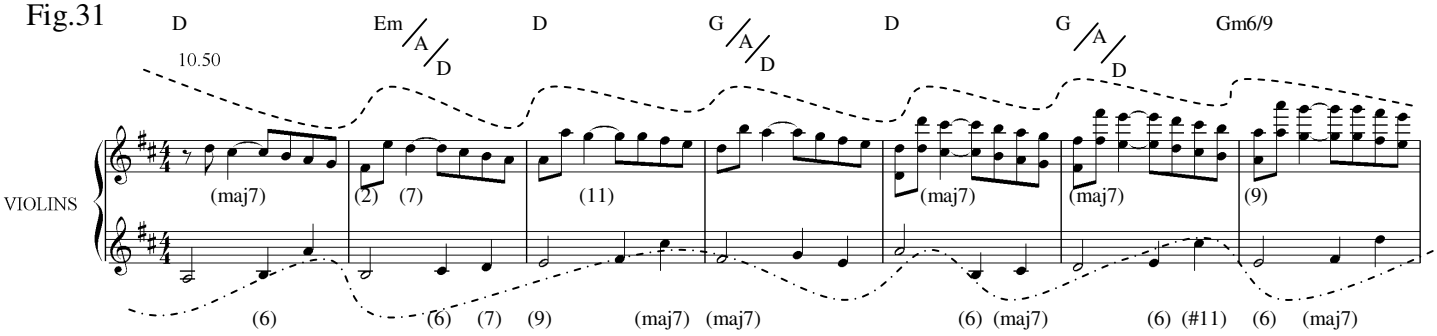
Audio - Adventures on Earth 10.50

Fig.30



Looking at the melodic lines in the same transcription (abbreviated below, fig.31) what is immediately apparent is the structural integrity and lyrical beauty created by the lines; the added contours show how the two lines offer contrary motion. As we have established elsewhere, contrary motion could be described as 'how music breathes in and out'.

Fig.31

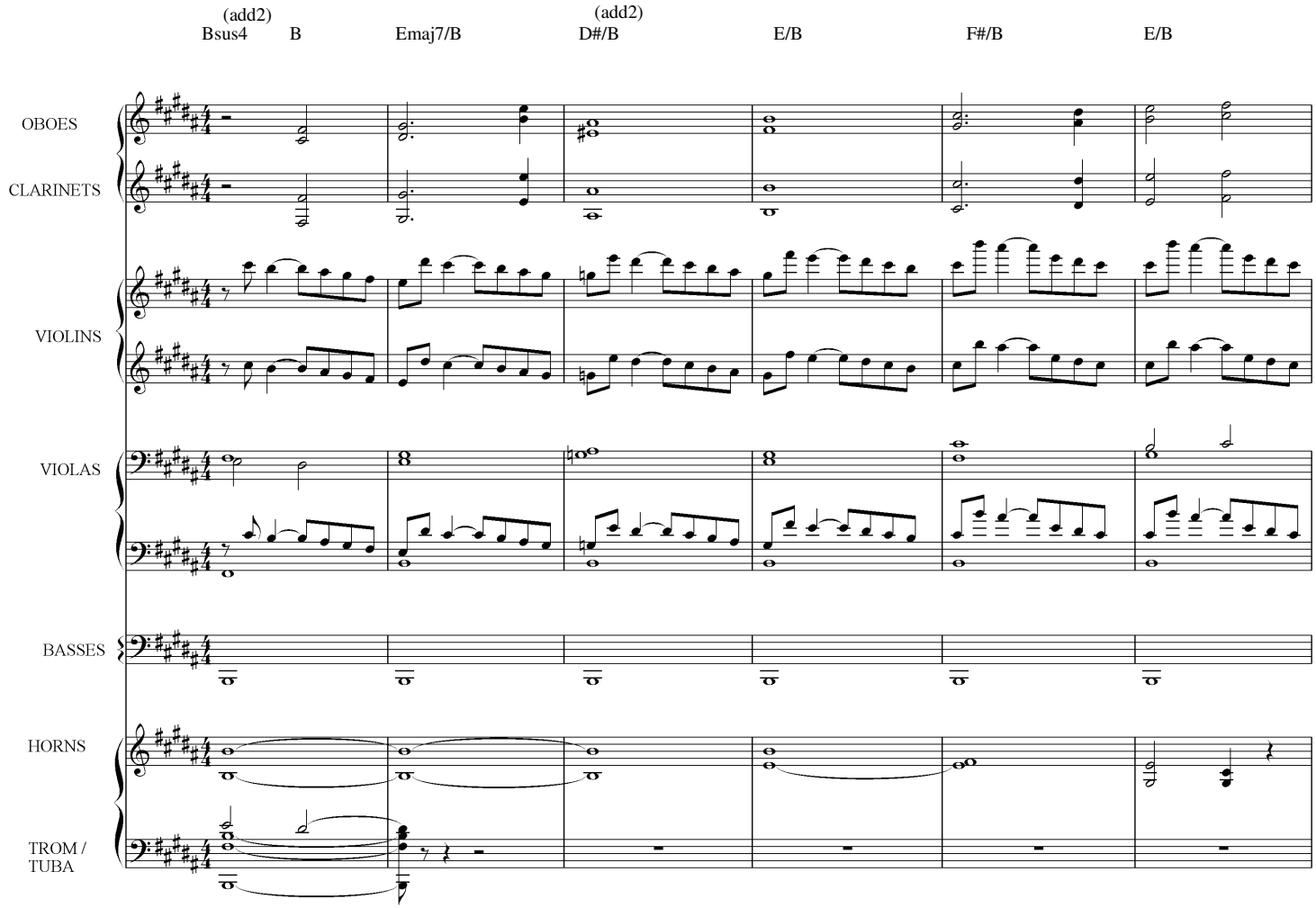


Also, looking at the melody and counterpoint we can see how the array of rich communicative intervals (6, 7, maj7, 9, #11) in both lines helps the section develop a colourful and vivid identity. There are some harmonically tense moments too; the third bar contains a chord of D, over which is laid a top melodic note of G (11th), with an E note (2nd) counterpoint underneath.

The real 'Williams' moment comes in the final bar of this transcription where we have the Gm6/9, featuring the slight tension of the A melody (9th) over the Gm6 chord and the F# (maj7) in the counterpoint. What is also worth mentioning here is the rhythm of the melody lines and how they react with each other; the lower melodic line begins on the first beat of every bar whereas the top melodic line begins on the offbeat. This makes the melody and counterpoint rhythmically self-contained, with its own momentum, energy and motion.

In conclusion this is not simply one primary melody accompanied by counterpoint; this feels like one big idea which is simply too big to fit on one line. We don't feel drawn to one particular line; we listen to both simultaneously. A similar line comes in at 11.33 in the same piece (fig.32).

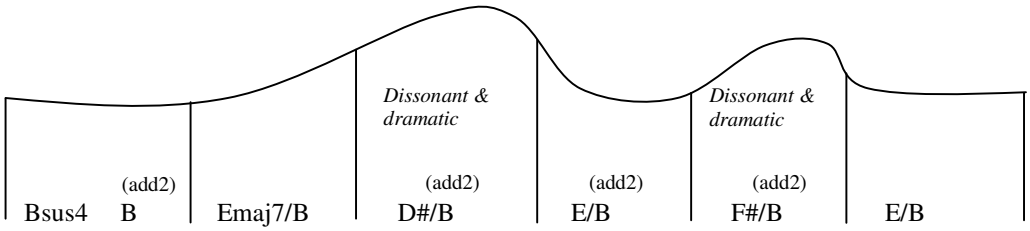
Fig.32 *Audio - Adventures on Earth 11.33*



What's interesting in this section is how the subtleties of harmony and chord extensions and suspensions affect the overall complexion and 'colour' of the sound. The suspensions and the various 'add' extensions serve to slightly blur and soften the absoluteness of the chords. Particularly effective is where subtly differently effected chords glide into one another; bar one features a Bsus4 resolving into a B chord featuring an added 2nd. The effectiveness is caused by the B chord never quite settling and therefore always having a sense of extra colour and harmonic momentum.

The real victory, though, and the thing which is so quintessentially John Williams, is, once again, the 'emotional contour' created by his use of harmonies. As in fig.33, by plotting the evolution of the type of chords used (and to what degree they are simple or complex) we can see how the drama unfolds and the senses and expectations are raised and then lowered depending on the specific communicative powers of the harmonies used. If we look at the orchestration we can see that there is a B pedal note throughout. If we then look at the harmonies built on top as the separate chords they essentially are, we can see that, apart from the occasionally subtle extensions, what we have is a series of chords which ascend and descend (Emaj7, D#, E, F#, E) which creates a palpable sense of direction. But if we look specifically at the *type* of chords and their relative complexity we can see a definite contour which plots how the tension rises and fall.

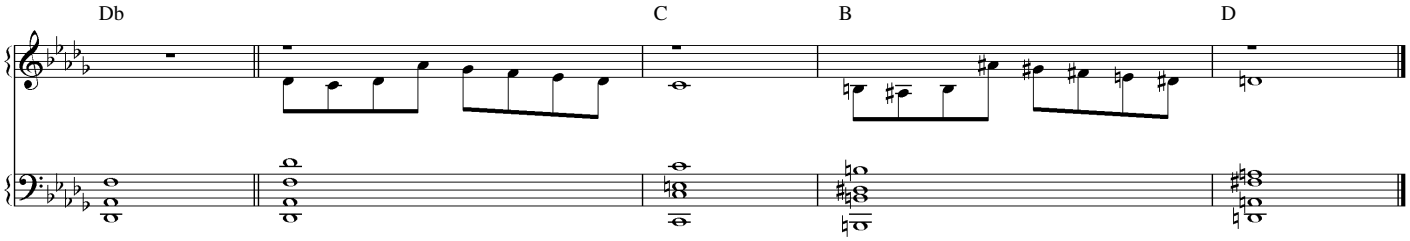
Fig.33



What's particularly interesting isn't just how some chords produce standardised and predictable emotions; it is also the consistency of extensions used. In four out of the six bars the 'add2'works to 'soften the edges' of chords, add splashes of colour and make them fractionally less rigid and ordinary. The John Williams moment is bar three which contains the D#maj chord over the B bass. This chord works so well because, although on paper it is dissonant, there are notes within the chord of D#maj which have a parallel context to Bmaj; the D# represents the root of a D# chord and the maj3rd of a B chord. The A# represents the 5th of the D# chord and the maj7th of the B chord. The notes which 'clash' are the maj 3rd of the D# chord (on the transcription written enharmonically as a G) and the 'add2' of the D# chord (the E#).

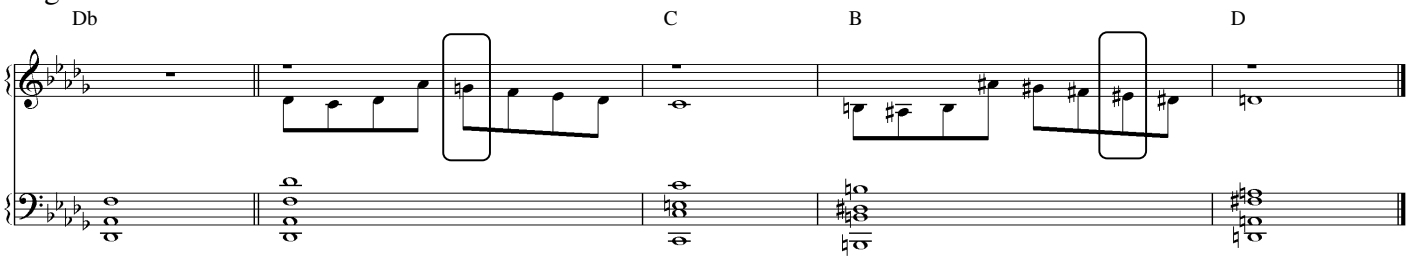
Moving to a piece entitled 'Over the Moon' we see some of John Williams' most expressive and communicative writing. Before we come to the piece itself it's interesting to understand how composers subvert, alter and change music in order to extort colour and create character and emotion. It would be beneficial to deconstruct this piece; reverse-engineer it to take out all the subtle nuances which give it its character and identity, thereby observing the process rather than the outcome. What we have below is a theoretical basis of the idea; the shell, which consists of a simple ascending and descending scalic line with accompanying chords.

Fig.34



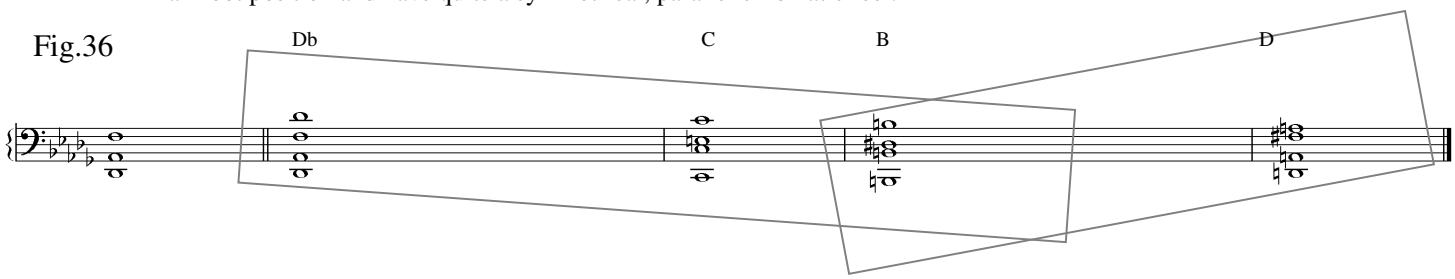
The version underneath has the #4 added in order to illicit a specific aural characteristic. As we have established countless times in both volumes of this book the #4 tends to add a feeling of wonderment, mystery and excitement and is consistently used in sci-fi music.

Fig.35



Looking at the accompanying harmonies from the example in fig.34 and fig. 35 it is noticeable that they are all root position and have quite a symmetrical, parallel chromatic feel.

Fig.36



The version below is now closer to the original and has an extra piece of melody in bar three and five where the line hits the maj7th. This version also has the all-important addition of inversions. Inversions create drama in harmony but their role here is also to stop the parallel feeling by creating contrary motion (the melody is on a downward arc over the bar line whilst the bass line is on an upward arc).

Fig.37

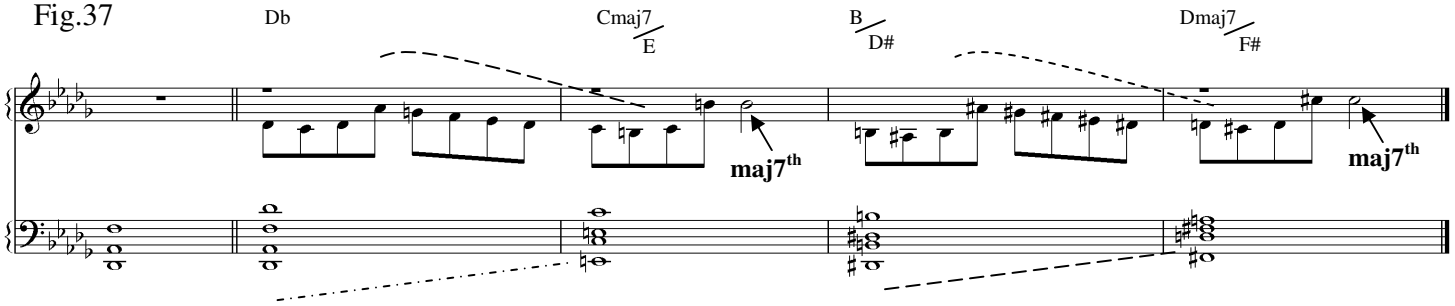
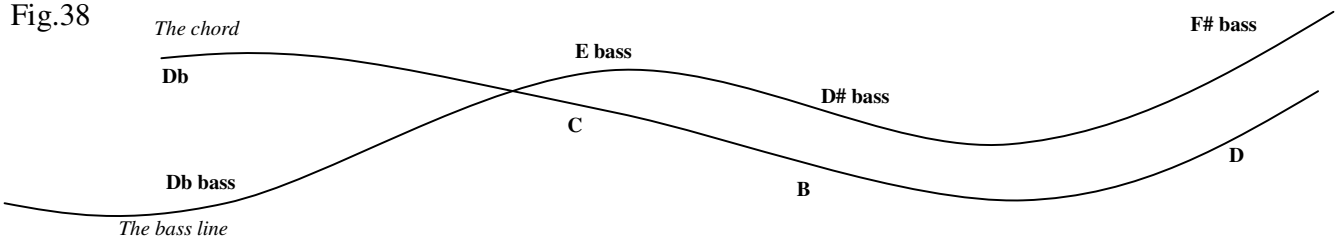


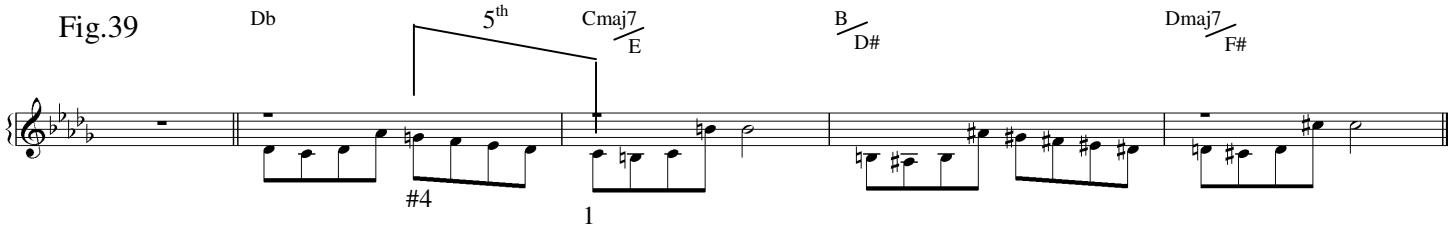
Fig.38



There are two more issues of interest which both add to the overall harmonic flavour: the maj7 melody note over the inverted chord (bar three, fig.37) creates a strange dynamic. A combination the B melody note and E bass means there is a whiff of Em about it, which, although not creating anything remotely polytonal in nature, does lend the chord an attractive vagueness and shaves the edges off its firmness. Over a root chord, the maj7th can sound cheesy, jazzy and 'easy listening'. A first inversion changes everything; it changes the harmonic dynamic of the chord completely.

There is also a curious link between the #4 of the Db chord (the note G, bar two, fig.39) and the chord which follows (C – bar three, fig 39). Looking purely at their own harmonic relationship we see a perfect 5th between them. Although the 5th is doesn't really exist because it is not a simultaneous event and therefore not an interval, the link between them is much more than purely theoretical; there is a bond, a kind of horizontal harmonic event which helps the two chords gel. The two notes each have disproportionate power within their respective bars; the #4 sticks out in bar two and the C note is the first we hear (and is the root note) in bar three. This is a timely reminder that intervallic context is not only to be heard vertically, in context of a note's relationship with the chord which accompanies it *at that moment.* Intervallic context can also be heard and *felt* horizontally between different melody notes or notes in a chord, irrespective of which chord they are part of.

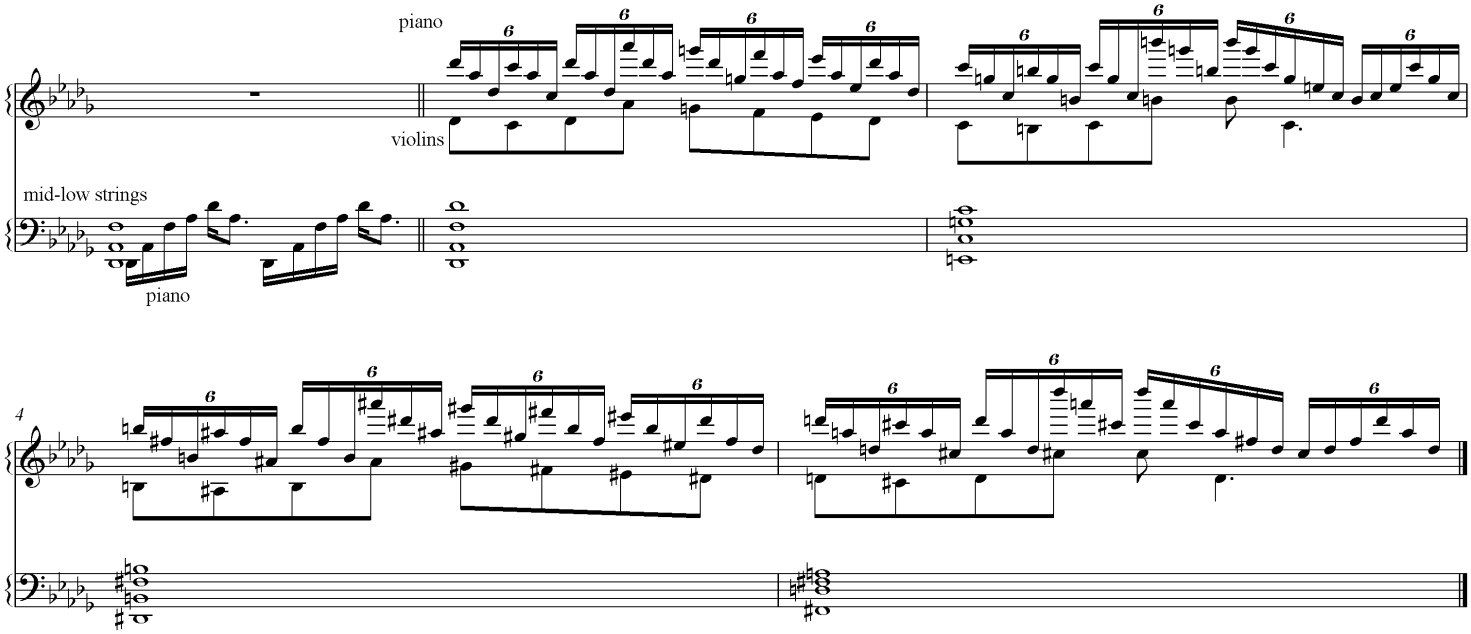
Fig.39



The 'finished version', resplendent with triplet semiquavers on piano, is transcribed below (fig.40).

Fig.40

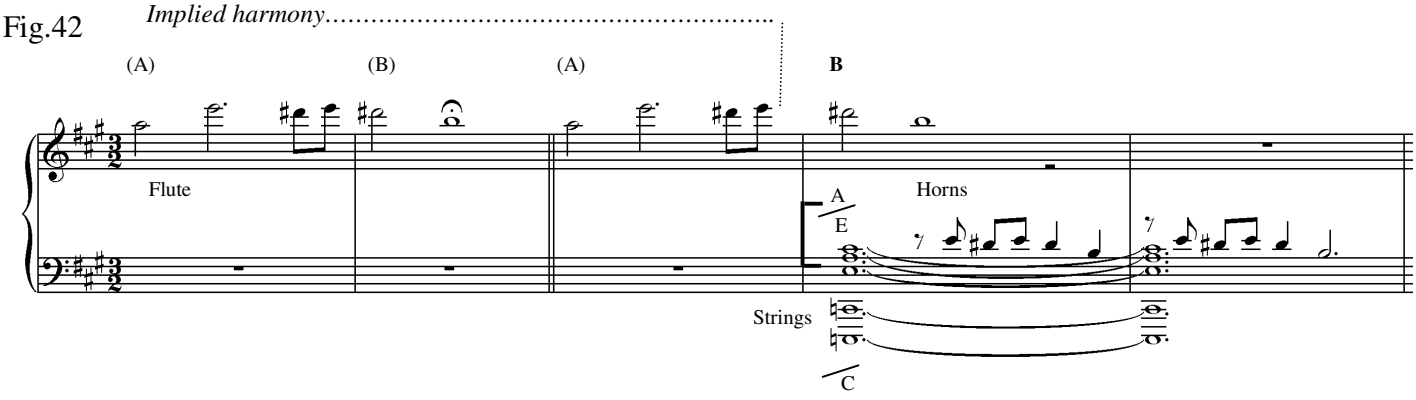
Audio – Over the Moon



The following piece, entitled 'Three Million Light Years from Earth' is another interesting Williams' creation which, like many of his other successful pieces for the film, is based on the concept of polytonality. No supporting chords appear until bar four, but the initial melodic line is clearly suggestive of harmony.

Audio – Three Million Light Years from Earth Movie – 00.01.12

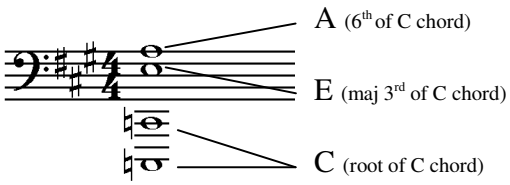
Fig.42



The chord on bar four is the kind of chord which, according to many people who talk about the music for *E.T.*, 'makes the hair on the back of the neck stand on end'. When people listen to these types of chords, with their seemingly baffling, abstract harmonies, there is a tendency to presume that the reason for the tingling, 'out of this world' feeling lies within the 'sound' e.g. the textures of the instruments. Obviously this is important but the main reason this chord sounds the way it does is because what's *in it*, not just what's playing it. Essentially, in bar four we have an implied B chord stated by the flute (D# and B) over an inverted A chord underneath (top three notes on the bass stave). Technically the flute notes represents the #11 and 9 of the 'A' chord but the way we hear it is as a slash chord (B/A). The final piece of the harmonic jigsaw which throws people completely and immerses them in abstraction is the C bass. Faced with a multitude of information we cannot rationalise, we enter the world of blissfully pleasant confusion, which creates an almost ethereal, mystical experience.

The point is that just 'any old' dissonance and abstraction will not work. This is carefully crafted abstraction; the C octave root in the bass interacts with the E and A above, which function as the rich maj3rd and maj6th of a C chord (see fig.43)

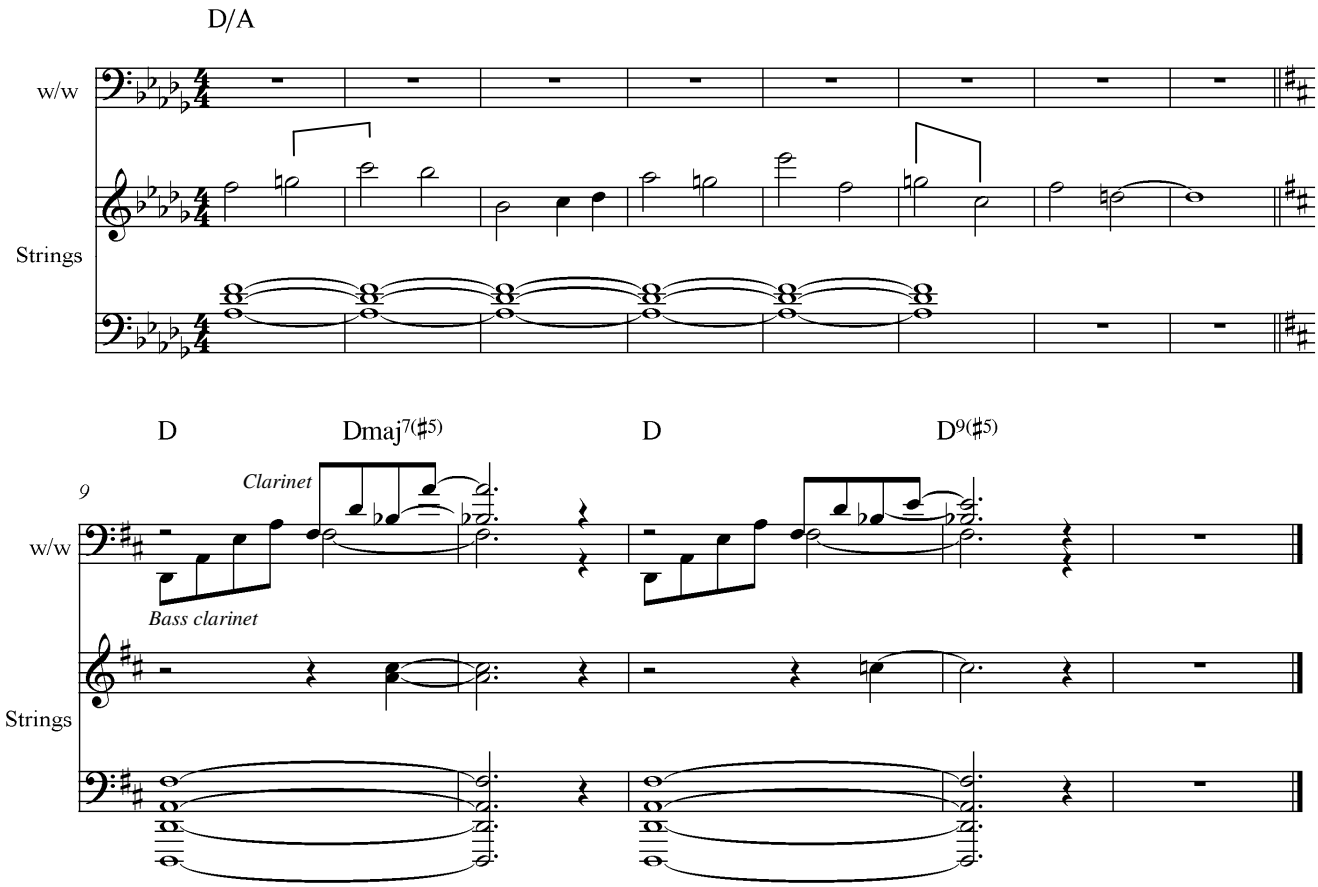
Fig.43



But the E and A *also* function as 5th and 1st of the A chord (as seen in the wider context shown in fig.42). The duality of perception ensures that this very carefully sculptured harmony communicates.

The following short transcription is from a small section of the track 'E.T. Phone Home'.

Fig.44 *Audio – E.T. Phone Home*



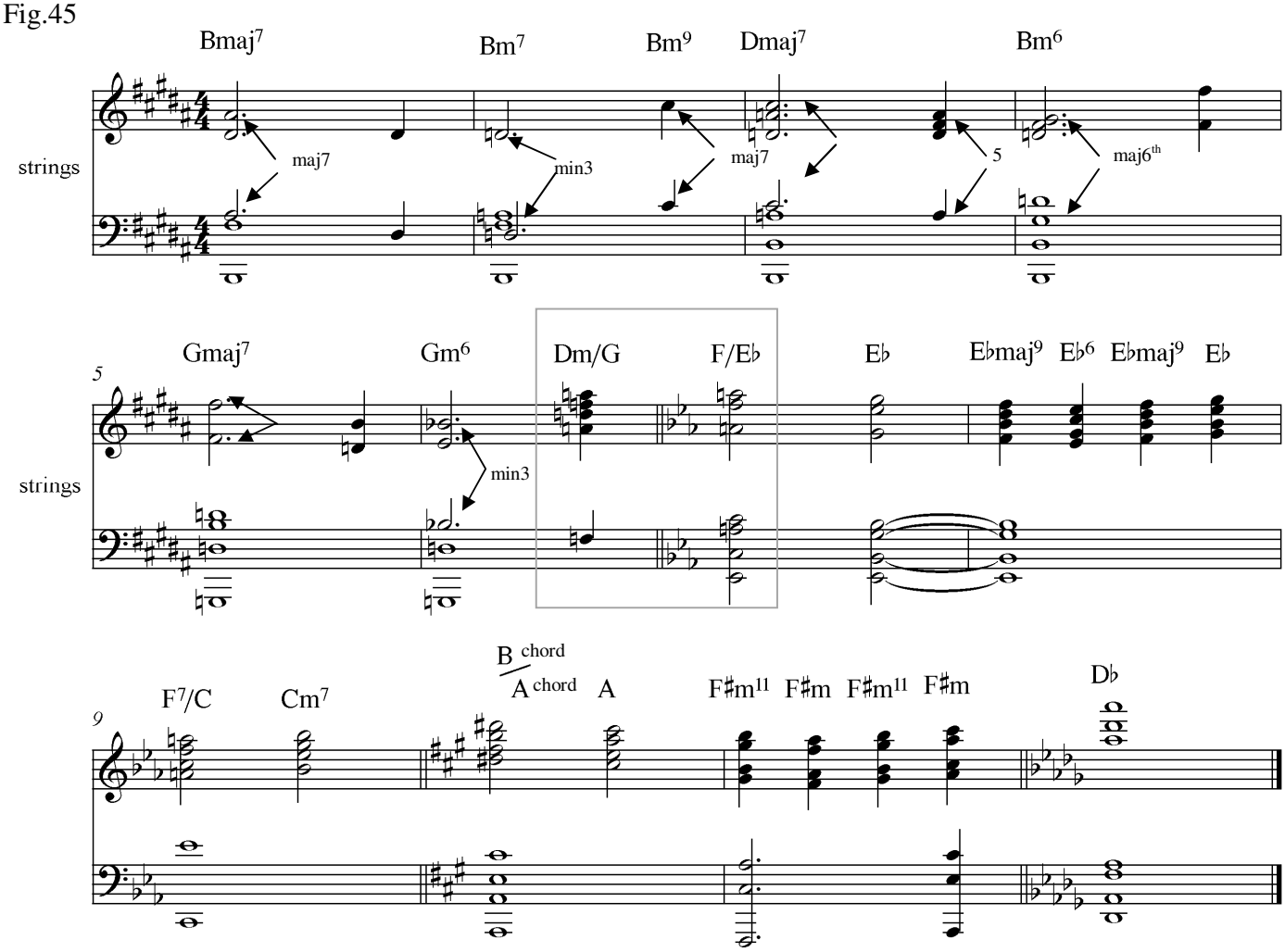
The first eight bars before the key change are gentle and serene, with deft polytonal touches which take us outside the key centre by virtue of the maj7 (C) and the #4 (G), which together form a perfect 4th interval in the key of C (similar to fig.39 – 'Over the Moon'). In bar seven of 'E.T Phone Home' (fig.44) the unaccompanied line goes from F to D. The D natural throws us off the scent of Db, the key we've come from. But given the F and D notes (in bar seven) we might sense a key centre of Dm or Bb. But it is entirely typical of Williams' style of writing (which constantly offers up surprises rich in colour, depth and imagination) that we actually end up in the key of Dmaj, with the archetypal rich expansive luscious orchestration providing the string harmonies. What makes this section of the cue extremely emotional is the sheer depth of colour Williams employs and how his instrumental and harmonic choices offer a heady mixture of romance *and* abstraction; in addition to the bed of strings (bar nine onwards) the arpegiated bass clarinet / clarinet line brings a sense of majesty, with the phrase ending on beat four of bar one on a classic tension-filled Williams chord with strings stating the Dmaj7 chord expansively voiced (octave roots, 5th and high 3rd) whilst the woodwind offer the Bb (#5), with the A note (the high 5th) a maj7 above.

The chord sounds a little dream-like, and, as in many of Williams' chords, this is because the chord has extensions which contain their own gentle suggestion of a different chord; a kind of vague, slight polytonality: the Bb and A notes are suggestive of the min3 and 9th of a Gm9. Once again, this is not just some abstract theoretical point; when people hear the ethereal mesmerising chord, the reason it sounds as it does is precisely because it uses extensions which create the feeling a different, alternate aural reality. The Bb and A notes are crucial here because the maj7 interval *between them* itself creates tension.

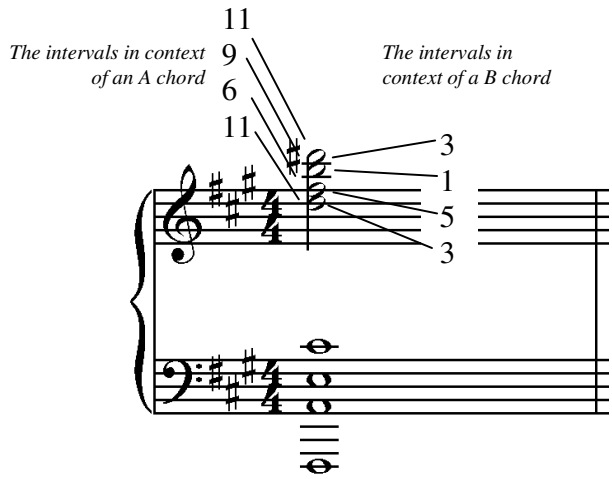
Another section from 'Adventures on Earth' once again displays Williams' penchant for emotive romantic music which communicates vividly.

Audio – Adventures on Earth – 08.19

Fig.45

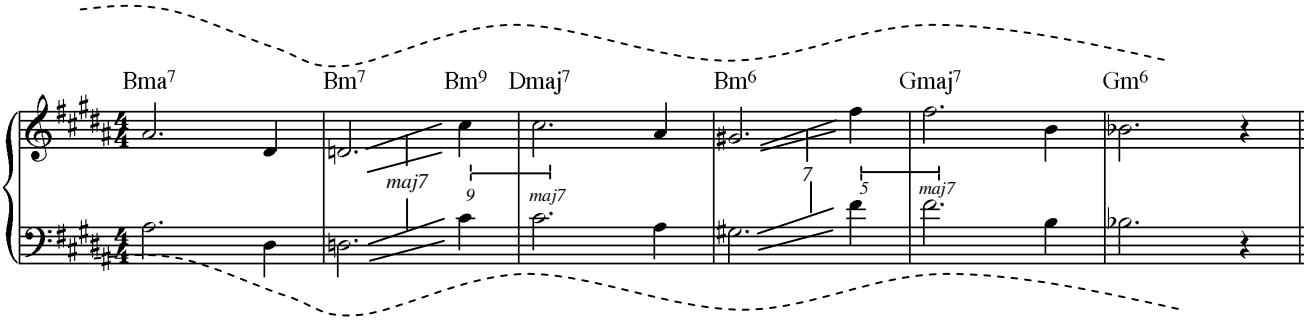


In this piece the melody appears in octaves (highlighted - until bar five) which lends it a deep and penetrative texture, not least because the melody line intervals that appear on the first beat of each bar are colourful and exposed (maj7, min3, maj6 over a minor chord). One cannot overestimate the importance of the octave line, particularly the warmth and richness created by the lower melody notes; bar two (min3rd), bar three (maj7th) and bar four (6th). The transition (boxed) from the Dm/G chord at the end of bar six to the F/Eb chord at the beginning of bar seven is also particularly effective due to the closely harmonised top-stave strings, which are almost identical in both chords; the chords are different only by virtue of the notes on the bottom stave and therefore the intervallic changes created in the notes on the top stave. The transition between two fundamentally different chords is therefore made more subtle; ultimately the success of this transition is buried within the subtleties of voicing and orchestration. The shifts between different key centres ensure the piece is constantly alternating between tension and release. Perhaps one of the most effective sections is where Williams again places one chord on top of another chord; bar ten features a closely voiced B chord over an openly voiced lower A chord.



The B chord over the A chord is interesting because there is a slight polytonal feel; the notes in the B chord have two parallel intervallic realities, highlighted either side of the chord. What also makes the transition between the B/A and the A sound warm and rich, in addition to the close-part voicing, is the fact that the top string chords are vertically bookended by 3rds.

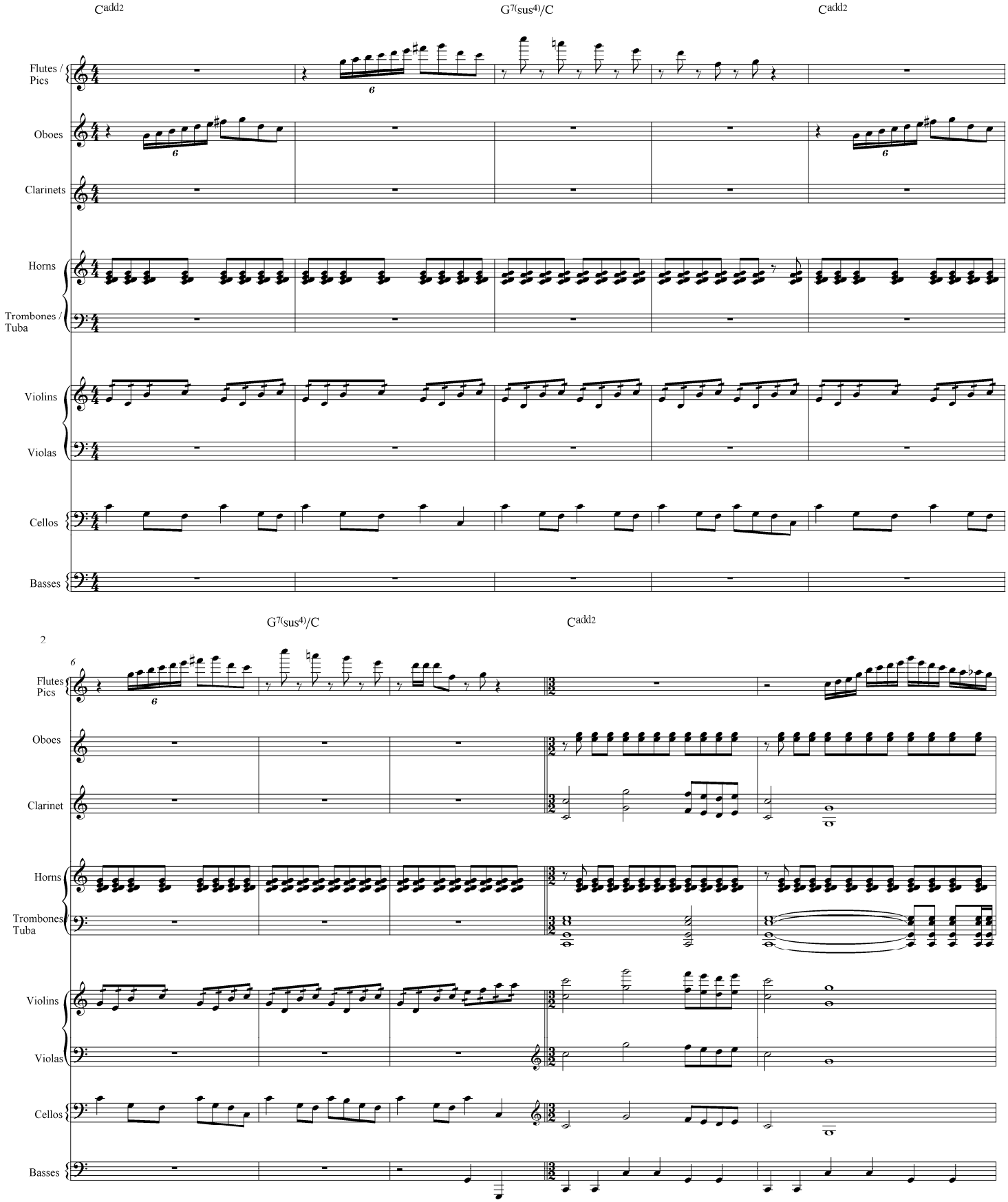
Another interesting aspect, similar to the piece from *Close Encounters* we examined in volume 1, is the intervallic leaps between the melody notes (highlighted) and the varying intervallic context of the notes depending on which chord they are a part of.

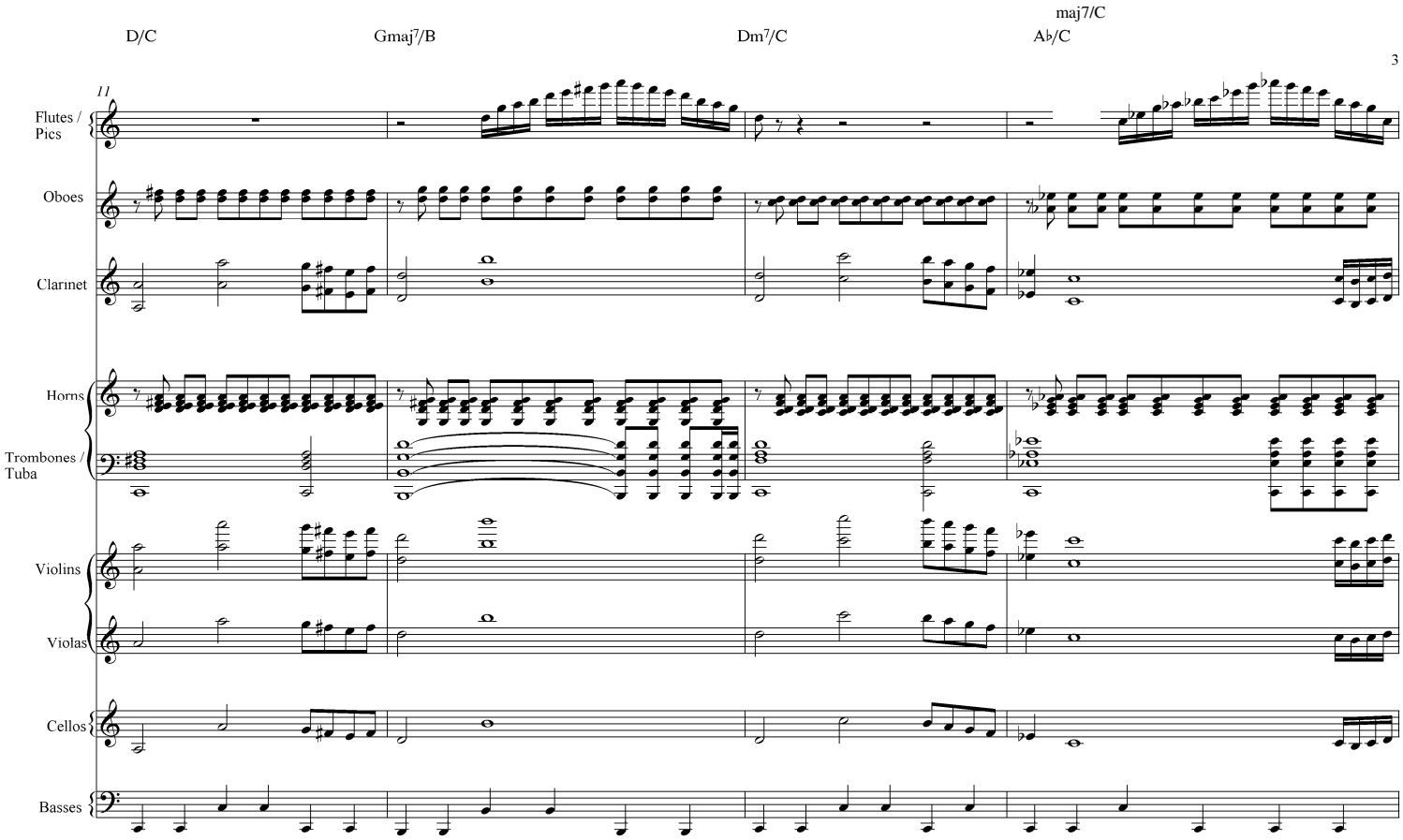


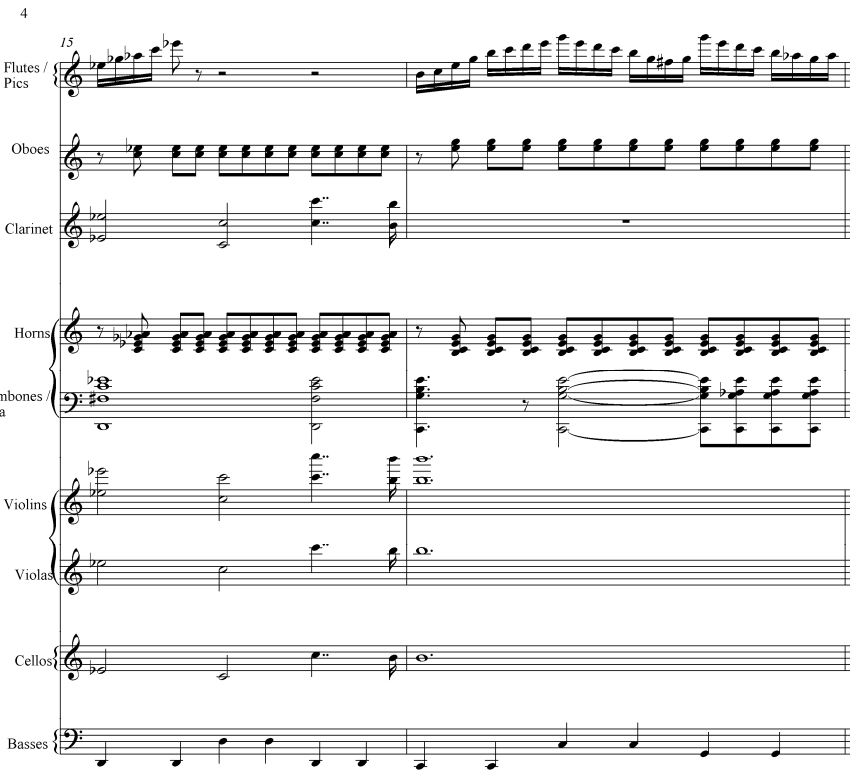
Also the melody has an effective and consistent up-and-down contour which gives it real physical identity (highlighted).

The iconic 'Flying Theme': Much has been said and written about the 'Flying Theme'. From a compositional perspective one reason why the grand and majestic melody works so effectively is down to the drama created by supporting harmonies. Listeners tend to focus on the rousing melodic figure; the melody is what draws them instantly and what communicates quickly but the emotional rollercoaster is a creation at least partly of the way the line interacts with the supportive harmonies and how these harmonies are delivered in terms of instrumentation, texture and voicing.

Fig.46 *Audio – Flying Theme*







Looking at the piece from a harmonic perspective across the duration of the excerpt, the chord transition from C to D/C (bar ten-eleven) is particularly dramatic due to the predictable tension of the pedal note; the low C evolves from root to 7th despite remaining aurally unchanged. The chord which follows (Gmaj7/B) works well thanks to the specific dynamic created by a combination of the maj7and B bass (which creates a distinctive 5thinterval or almost a parallel Bm feel).

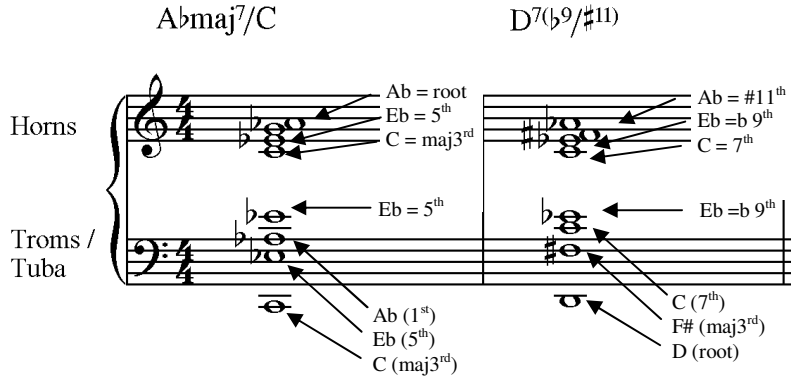
Thus, once again it is Williams' slight blurring of the certainties of harmony which serve the piece so well. The 'soft edges' of the Dm/C (bar thirteen) acts as relief to the drama of the first few chords, which in turn leads to new drama created by the out-of-key-centre Ab/C. The D7 (b9/#11) in bar fifteen is indelibly linked to the previous Ab/C chord in bar fourteen; it is an *evolution* of it. The two chords are, essentially, different versions of each other.

But the real 'red herring' is when the D7 (b9/#11) chord resolves not to the Gmaj7 chord, which subconsciously we probably expect, but to the Cmaj7 (bar sixteen) creating an odd but strangely captivating final cadence. What this all means is that the emotional contours created in this piece by a combination of harmonies and voicing are just as much of a rollercoaster ride as the soaring melody. From a purely melodic perspective the cue benefits from a strong identity with plenty of fifth and soaring octave jumps upwards and downwards

From an orchestration perspective the piece has all the usual drama and identity we associate with the music of John Williams. The add2 context is established from bar one, appearing as part of a cluster chord articulated by the Horns. The Horn quavers are going too fast for their internal harmonies to be rationalised properly but regardless the whiff and distinctive softness of the add2 penetrate. The G7sus4 in bars three/four and seven/eight work well because of the cluster chord which delivers it; the C note (sus4) sits next to the D (5^{th}) and the F (7^{th}) sits next to the G (oct).These two separate groupings sit a minor 3^{rd} apart and it is a combination of these factors - these particular types of grouping - which draw attention to the tensions. The cluster voicing of the Gma7 in bar twelve is important too, adding tension and colour which exposes the texture of the instruments and the inherent make-up of the chord by placing the F# (maj7) next to the octave (G). The same thing happens with the Horns in the Abmaj7 (bar fourteen) chord too.

If we look at the minute difference between the Horn voicings in bar fourteen and fifteen (where the only change is the G note, which becomes a Gb) we begin to appreciate how subtle the interplay between these two chords is.

Fig.47



The complexion of the chord is mainly changed by the lower end of the chord (trombones and tuba). Three of the four top notes remain, but what they 'mean' alters.

By 'what they mean' I refer of course to the intervallic context. This is one of the principle reasons that this chordal manoeuvre works so well - because most of the top note and one of the bottom note 'changes' are not physical but intervallic. As we can see from the example above (fig.47) which isolates the main harmonic context of the chords in question (voiced for Horns and Trombones/Tuba) the 'top half' of the chord in bar two is, effectively, an Ab7, which is only one note different from an Abmaj7; this difference is even subtler because it is voiced over the 3^{rd} (C).

However, calling the chord an Ab7 over a D7(b9) – as in bar two, fig.45 - is probably a more 'phonic' description in that it relays the polytonal nature of the chord and therefore the *truth* about why it communicates so vividly; chord symbols are wonderful devices but they don't possess an *opinion*, simply the abbreviated facts. A chord symbol will default to the simplest 'symbolic' explanation there is. Often if you want to know why a certain complex chord communicates you have to dissect it, whereupon you'll frequently find it can be split it into its component parts and its polytonal context exposed.

The issues uncovered by the analysis of this track underpin one of the fundamental founding principles of film music itself, which is directly tied to orchestration: chords and voicing are frequently designed with tensions, peculiarities and idiosyncrasies which illicit emotional responses the listener. A large amount of film music harmony is full of tiny extra colours, tensions, pressures and strains which punctuate the dull inevitabilities of 'normal' chords. Nearly all the harmonic issues we address are caused by the careful manipulation and skewing of normality which italicise and expose tiny aural nuances.

Harmony and 'meaning'

As we have established numerous times in this book, chords have palpable, intrinsic and tangible character and personality. These characters and personalities exist as a part of *our reaction* to what we hear. Like words, music does not exist in a vacuum; words are meaningless without our ability to react, respond and interpret them. They do not *literally* contain meaning; the meaning is created through our shared responses and common reactions. Words are useful because they *mean* similar things to all of us. Harmony is the same but to a lesser certain extent. Our reaction to certain and specific chords, extensions and even voicings create an emotional response and therefore the type of 'meaning'; the meaning is *ours* and in many cases it is a shared experience, standardised and general in its application. This is borne out by the consistent and predictable emotion created when certain chords are employed.

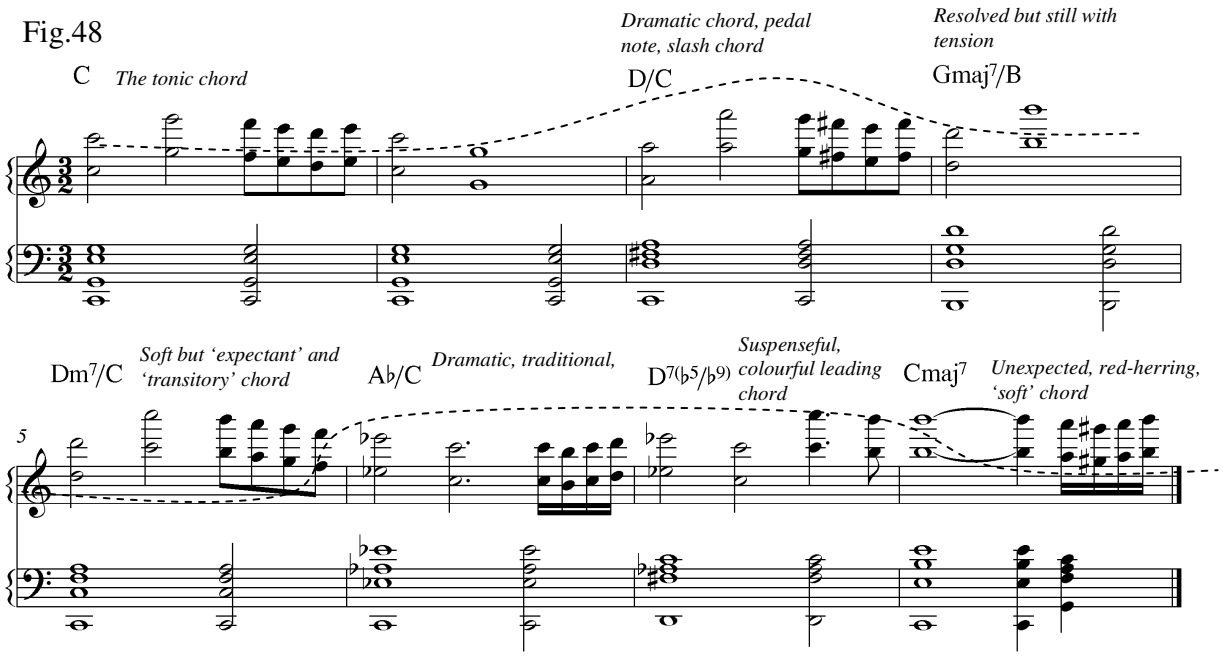
That said, chords rarely appear alone; specific and identifiable emotive harmonic identity depends, to a degree, on surrounding context and textural / instrumental delivery. The feelings chords create and the subsequent 'meanings' they suggest within us are sometimes slightly less rigid and more open to interpretation when placed in a larger construct, such as a long chord sequence. What I mean by this is that the *specific* dramatic effect of the D/C chord (bar eleven, fig 46), for example, is partly dependent on how it is delivered, e.g. what chord leads to it. The D/C works well because it is delivered and 'prepared for us' by the C chord. Equally the Gmaj7/B works so well partly because of the chords which precede it. So essentially it could be said that chords possess two subtly different parallel identities; an 'individual identity' and then a more subtle overarching cumulative identity based on its specific context.

What this all means is that given the inevitability and regularity with which the same chords appear and in addition given the *other* regularity of the sequential context in which chords appear (e.g. the success of specific chord *sequences*), we are able to determine, to a degree, their function and how and why they communicate; what their 'meaning' is. As we have discussed elsewhere in this book, many classical composers disagreed with the notion that music had the ability to create meaning; they thought that any emotion listeners gathered from a specific chords or a sequence was a purely personal experience and interpretation. The notion that emotions created by listening experiences could be shared by others and could be deemed to be in some way general or 'standardised' was dismissed. Possibly they assumed it robbed music, and therefore themselves, of the charm, mystique and greatness they had so carefully cultivated. This is was of course wrong; what composers do is just as impressive regardless of how and why their music creates emotion in listeners. The notion that any feeling of emotion or meaning listeners get from music is somehow wholly a personal thing is ludicrous. If listeners didn't achieve similar emotional reactions, responses and 'meaning' from specific chords then why and how did specific sections of a piece of music communicate roughly the same emotions to most listeners?

Bearing all this in mind, if we analyse an abbreviated transcription of the 'Flying Theme' (below, fig 48) we can, to a degree, plot an 'emotional contour' by simply observing and noting what kind of chords exist, what general emotion they are likely to create, what the chord's functions are and to what degree they confirm our anticipations or distort our expectations; are they 'normal' or do they surprise us? If they surprise us, how does this happen?

Looking at the 'Flying Theme' again in this simplified way distils many of the issues we've discussed and brings them into some kind of general focus.

Fig.48



Conclusion

The music to *E.T.* is probably Williams' most enduring, widely loved and famous film score. History will probably record that it goes down as the greatest film score in history. Absurd though it is to be seduced by archetypal crude media narratives and talk in terms of 'the greatest film score in history', if there were such an accolade, *E.T.* would probably win hands-down, arguably closely followed by other Williams' scores. The score to *E.T.* evoked profound and lasting emotional responses from the millions who saw the movie. Thirty years later people can still remember shedding tears; but as great as the film was, the reason for the tears was probably how well the music interpreted and evoked the film.

When we ask ourselves why music has this great unfathomable power to transform situations - why something that most people don't understand on any deep or meaningful level can have such a profound effect on them which can be created and manipulated so easily by composers - we are drawn to the ironic conclusion that, in all probability, it communicates so well *because* people don't understand it, not in spite of it.

Unlike moving pictures, where viewers understand, at least to a degree, how and why things look the way they do or what the function of a scene is, an audience does not have a set of collective logical assumptions governing how they interpret something as complex as harmony. But that doesn't mean they don't exist. Our emotions therefore are guided by something we don't understand, can't see but enjoy the benefit of. We are in our element but out of our depth. That's the power of music.

When people talk of the 'magic of Hollywood', it is films like *E.T.* to which they refer. *E.T.* was indeed a great movie but it was also perhaps an even greater example of the power music has to distil and articulate a story so beautifully. *E.T.* is a perfect example of all that is poignant, emotive and moving about the concept of music for the moving image. But, as we have established hundreds of times in the two volumes of 'How Film and TV Music Communicate', the supposedly enigmatic and unfathomable effect of music is, in fact, not quite as unknowable as people like to imagine.

Before we leave *E.T* and to prove that there is indeed one born every minute, revered film critic James Berardinelli [talking about *E.T.*] said in 2002: "One thing that has not stood the test of time is John Williams' mediocre score."

Laughing hysterically, legs in the air, I had to read on: "The movie's music is unmemorable and unspectacular - easily the weakest of his major motion picture efforts" he said. Berardinelli's judgement is of course comically inept and absurdly wrong but the reason I quote him *at all* is to highlight an important fact that I touched upon at the beginning of vol.1: If one watches *E.T.* now, 30 years later, arguably one of the aspects that *does* stand the test of time is the music. In many ways it is almost timeless. There are no instrumental, orchestral or melodic conventions, tricks, stylistics which are *that* out of date. Perhaps the film itself doesn't fair quite as well simply because in 30 years special effects have moved fast.

Talking of special effects, it is interesting to note that now CGI has reached such a peak of visual believability, sometimes the only way we know that we're watching CGI is if we realise that 'the real thing' is unachievable or highly improbable. Therefore a limit has been reached; we have crossed the Rubicon. We know its CGI because we can't believe it *isn't.* there is clearly a limit to how you can delude people if they have a basic understanding of what's likely and probable. The wonderful thing about music is that people are influenced by something that most only understand on a surface level. Perhaps ultimately that is its 'ace card'.

Williams was allowed to score the final sequence 'musically' without having to cut or hurry the bars or phrases to fit the pictures; Spielberg re-edited the film to match the cue. Whenever a director does that you know you've nailed it.

Chapter 7

SKEWED PERSPECTIVES

Skewed Perspectives analyses music which offers listeners a subtly different perspective by using unusual harmonies which succeed in creating a distorted context. Sometimes this is via a specific use of orchestration or voicing or it could be because the kinds of harmonies presented lay slightly outside what we are used to hearing. We will examine how music reacts with the image, the story and the wider narrative and what specific and unique characteristics are created. This does not mean the music always sounds 'weird' – just that the result gives us a distorted, partial, broken or in some way slanted perspective as a result of deliberate and careful manipulation of harmony, melody or texture.

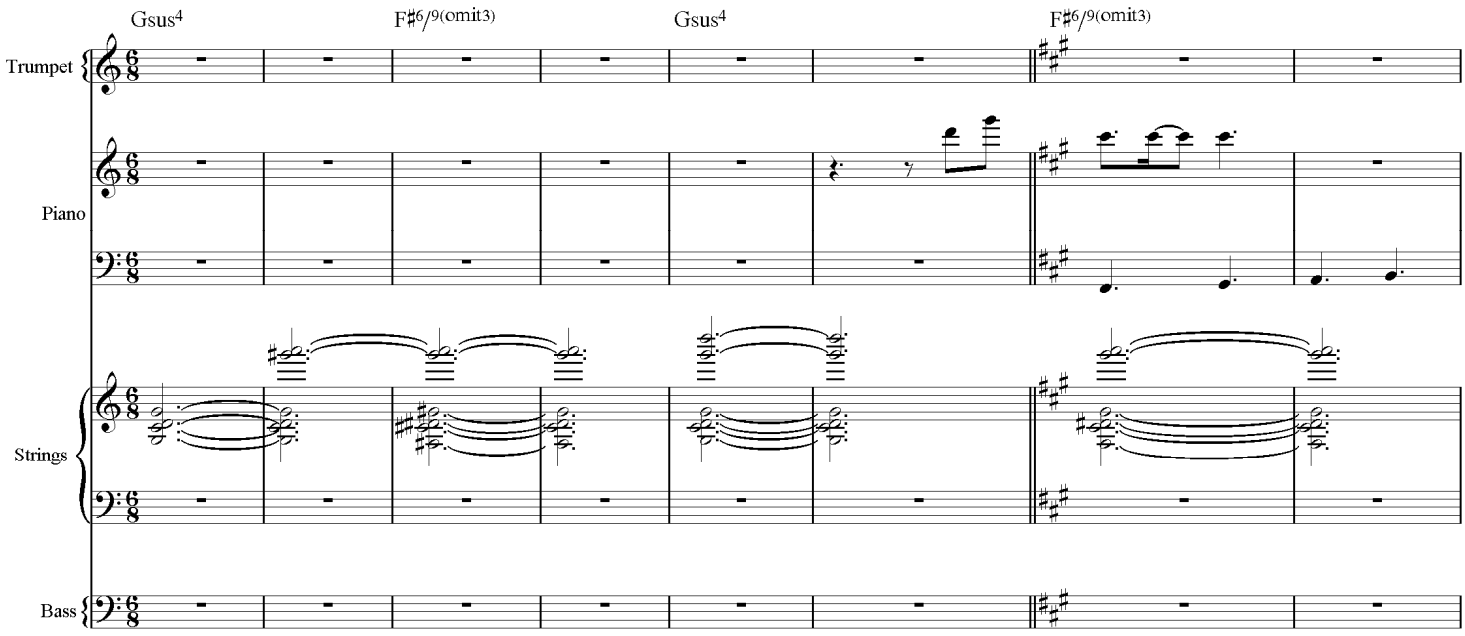
Music analysed includes:

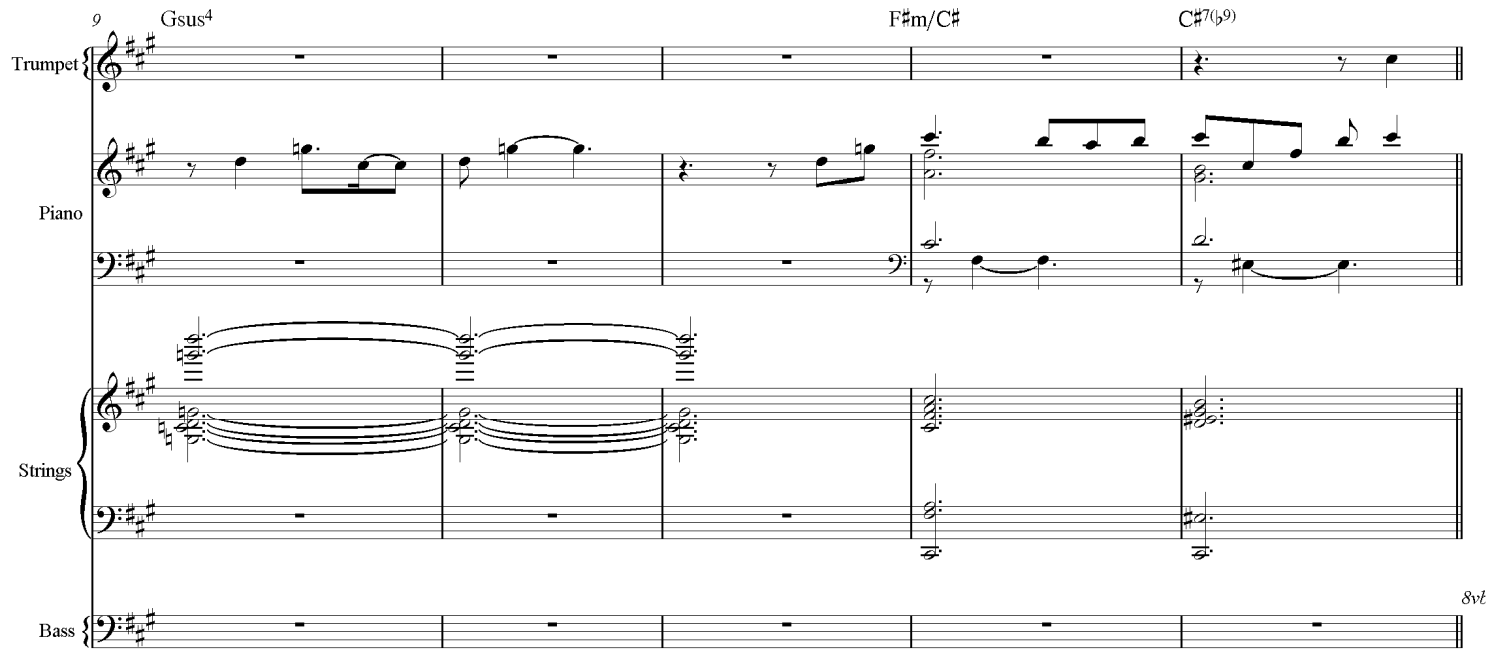
Tinker Tailor Soldier Spy (Alberto Iglasia) *The Bourne Ultimatum* (John Powell) *The Game & Seven* (Howard Shore) *The Village & Sixth Sense* (James Newton Howard) *Hannibal* (Hans Zimmer) *Psycho, Cape Fear & Vertigo* (Bernard Herrmann) *The Godfather* (Nino Rota) *Zodiac* (Howard Shore) *Deadly Pursuit* (John Scott) *Avatar* (James Horner) *Inception* (Hans Zimmer) *The Ghost* (Alexandre Desplat)

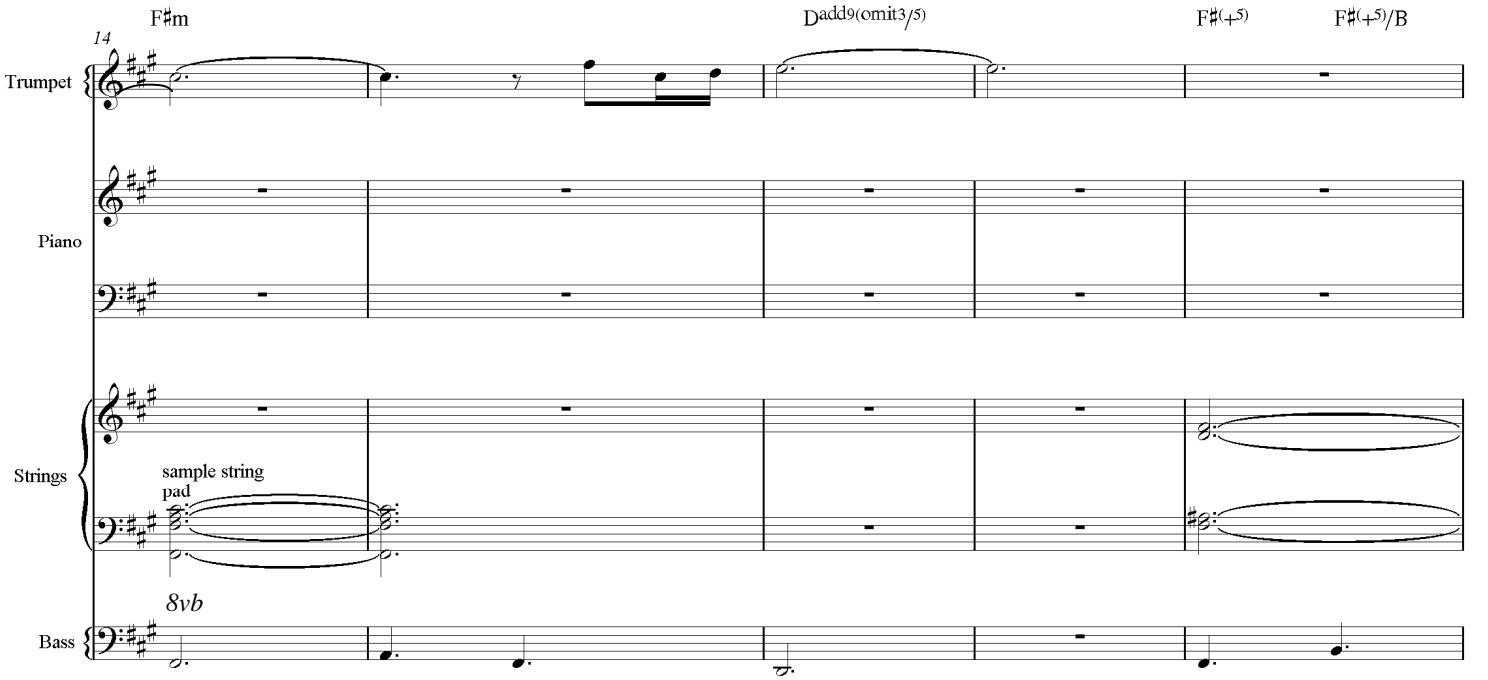
Tinker Tailor Soldier Spy *(Alberto Iglasia)*

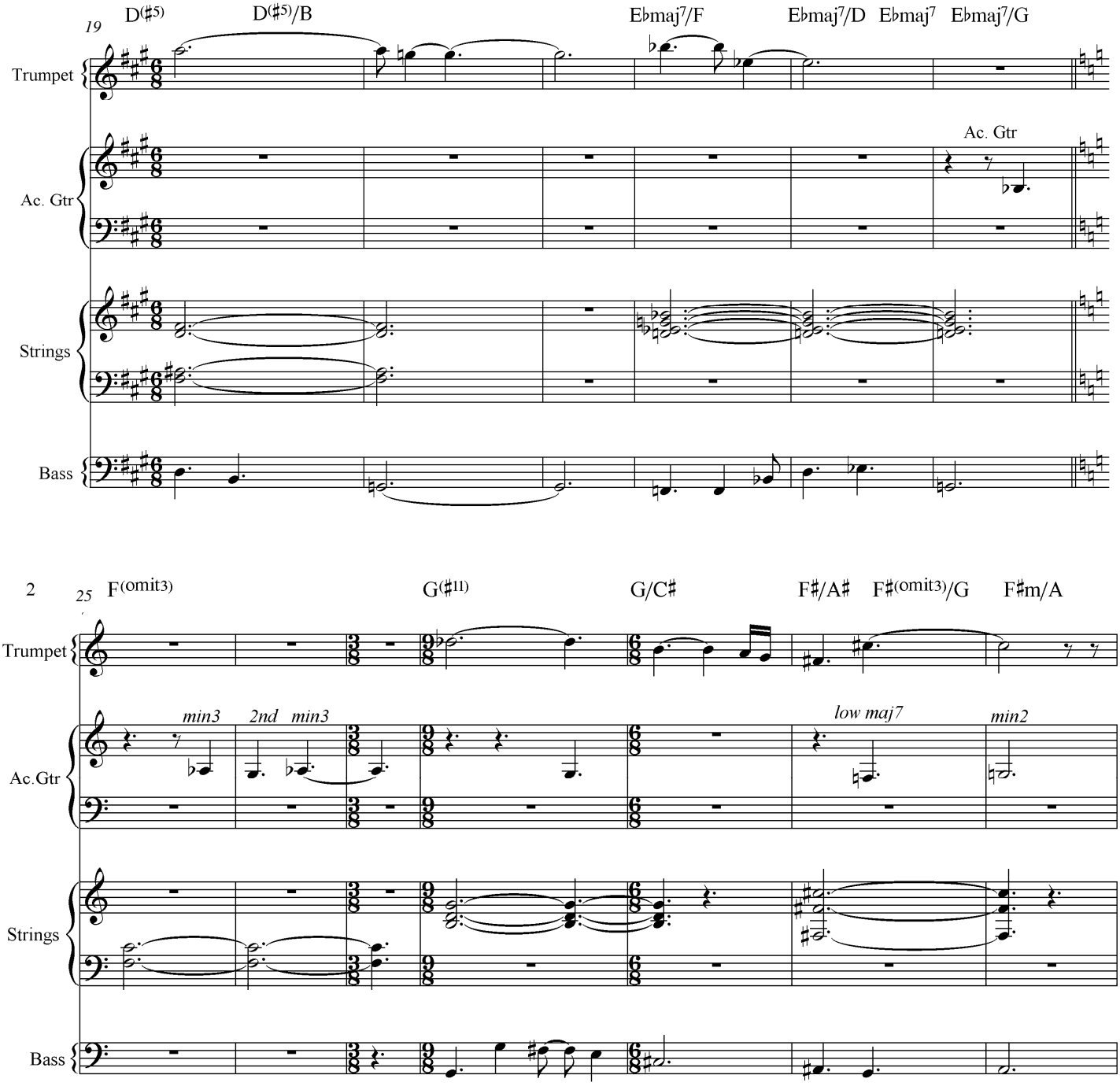
Tinker Tailor Soldier Spy is a 2011 Anglo-French spy film based on the 1974 novel by John le Carré. The film is set mostly in 1970s London and involves the hunt for a Soviet double agent inside MI6, known as the 'Circus'. The film is beautifully shot but sometimes struggles to relay the occasionally convoluted plot - something the music moderates. There are a whole host of characters to keep track of but Alberto Iglesias produced a masterful, dark and jazz-oriented score which emotionally and aesthetically mirrors the dark, sinister and dingy 70s and the film-noir style brooding photography.

Fig.1 *Audio – 'George Smiley' - Movie – 00.07.30*




9
Gsus4
F♯m/C♯
C♯7(♭9)
Trumpet
Piano
Strings
Bass
8vb


14
F♯m
Dadd9(omit3/5)
F♯(+5)
F♯(+5)/B
Trumpet
Piano
Strings
sample string pad
8vb
Bass



The trumpet is texturally the most obvious link to 70s progressive jazz with its distinctly dingy smoke-filled room vibe, but the harmonies, chord sequences and chord voicings speak the loudest when it comes to articulating a quasi-version of the wonderful abstractions which graced the era of modern jazz, filled as they were with dissonance, atonality and tension. These various harmonic devices work perfectly to underpin the narrative and the period of *Tinker Tailor Solider Spy*.

One of the ways the piece is so effective in serving the movie, is the way it moves effortlessly between light and shade; from outright harmonic abstraction to the safe territory of recognisable and familiar

harmonic terrain. The initial Gsus4 and F#sus4 chords lead into a bare, high piano line over the square and spatial-sounding F#6/9 ^{omit3} , which eventually becomes distilled into harmonic focus in bar twelve and thirteen when the string voicing of the F#m/C# paves the way for the C#7(b9) – a classic, dated and romantically inclined chord. The trumpet enters on a C# pick-up just prior to bar fourteen, supported by the sample string F#m chord.

Bar sixteen and seventeen feature an E trumpet note over a D bass with nothing else to support the chord. All we hear is the D (1) and the E (9) but despite the lack of harmony we hear it as a D *major* 9 as opposed to a D *minor* 9 largely because of the helpful harmonic context of the preceding F#m; in other words, because of our ability to classify and categorise and because harmony transmits not just vertically but horizontally and cumulatively, we perceive and understand the likely harmony. These kinds of thought processes are usually barely recognisable and are something which is intuitive. Aural cognition is not always something we think about, it is something we simply do, like understanding written and spoken language.

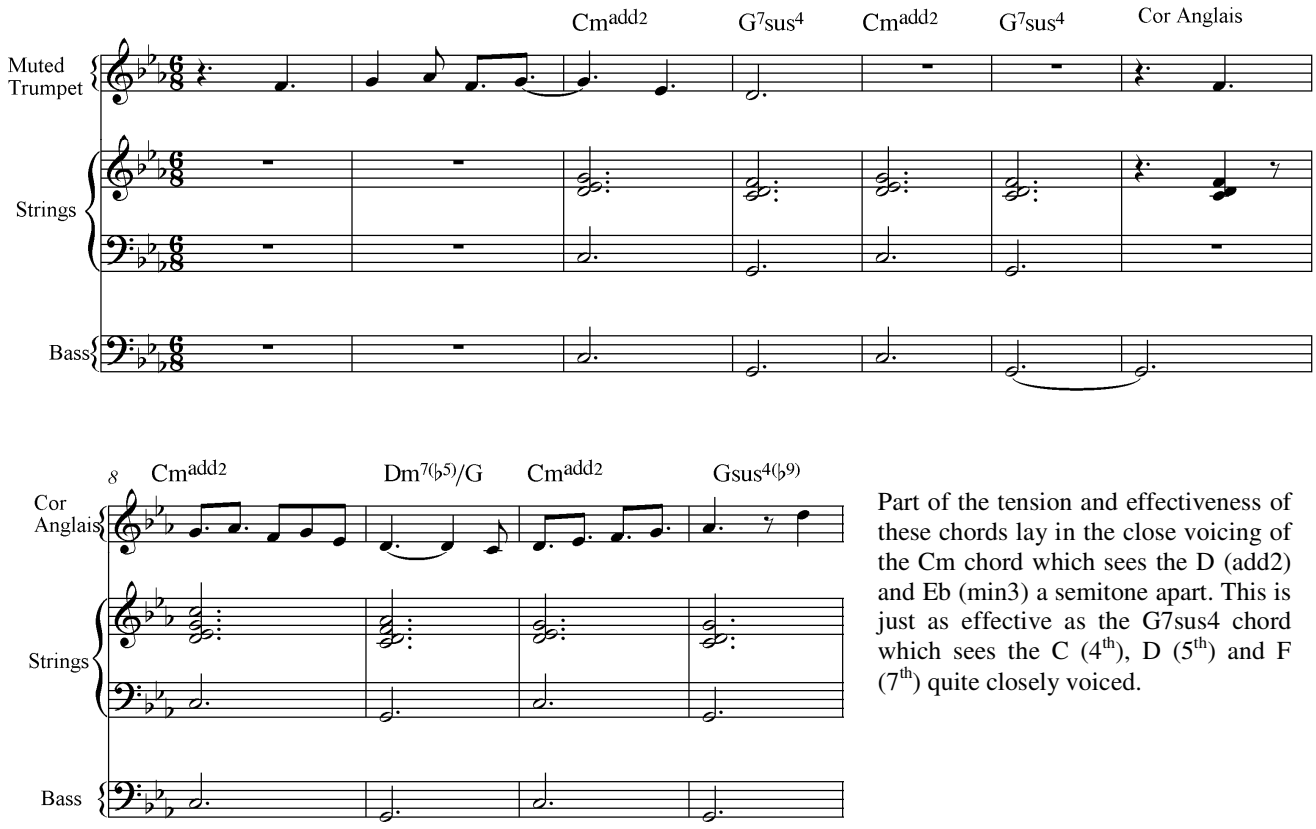
From 'empty' harmony we move straight to abstraction via the F#$^{(+5)}$ chord over the F# and then B bass (bar eighteen). Perhaps we need to discuss the bass here; some of the bass's notes are so low as to sometimes be difficult place harmonically. They exist sometimes in the same way a 'sub bass' frequency works. Because of this the B bass in bar eighteen (and indeed other examples of low bass notes which are massively at odds with the chord they lay underneath) isn't quite as dissonant as we might think; because of the unique textural qualities of the instrument the low string bass creates a mildly uncomfortable effect, rather than outright dissonance.

The abstraction begins properly in bar nineteen; the D$^{(+5)}$ chord is accompanied by the low D and B bass and by the added sumptuous, piercing dissonance of the A note (5th) of the trumpet, which clashes with the +5 two octaves lower. Just as effective is bar twenty-two where the piece moves out of its slim grasp of any feeling of a key centre, into the Ebmaj7 over the F bass. The Ebmaj7 speaks loudly thanks to the string voicing which has the maj7 voiced low in the chord right next to the Eb. The specific sonic qualities of the bass mean that the F it states simply does not have the same effect an F bass would normally have underneath an Eb chord; it doesn't create the distinctive and predictable 'pop music' harmonic colour and 'vibe' we associate with a slash chord. The bass in this version of the chord is simply 'playing another note'. It could almost, but not quite, be playing *anything*. Its effectiveness is in the fact that it *isn't* playing the Eb. Perhaps the most effective chord in the early part of this piece is in bar twenty-eight where we hear a perfectly normally voiced G chord in the strings with a piercing Db (#11) from the trumpet. The success of the various chords and extensions and instrumentation in the early part of this piece is that they communicate often abstract harmonies in a very texturally exact manner; the relatively minimal instrumentation exposes the often difficult harmonies and voicings brilliantly but this is tempered by the lush sound of the strings and other samples.

On a much deeper, virtually imperceptible and impenetrable level, the various chord extensions have relationships and reactions with *each other* which affect the way we hear some of the chords. An example perhaps is the communication between the G (top line of the strings in the G chord in bar twenty-eight) and the Db trumpet, creating the #4 interval; add to this the same G string note's relationship with the F# in the bass halfway through the same bar (creating a b9 interval). Every tiny nuance affects the way harmony works and communicates.

The role of the trumpet is twofold; it is to represent the modern jazz element which so effectively ties in with the film's location in terms of time and period. But also the distinct textures of the trumpet make some of the notes sound lazy and sluggish whilst others sound strained and even pained. Later in the same piece (2.27) we hear a section where the muted trumpet gives way to the Cor Anglais – the section displaying the effective interplay between two chords - the Cm$^{(add2)}$ and the G7$^{(sus4)}$

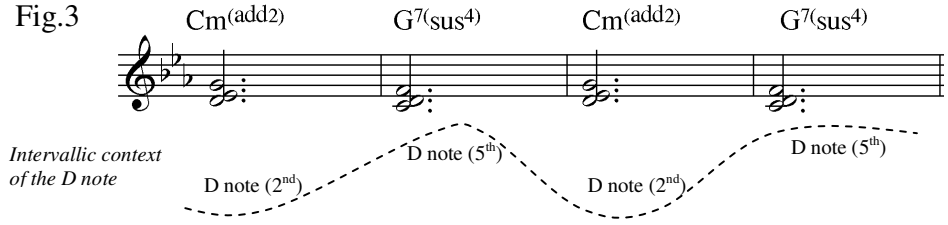
Fig.2 *Audio – 'George Smiley' – 02.27 Movie – 00.09.50*



Part of the tension and effectiveness of these chords lay in the close voicing of the Cm chord which sees the D (add2) and Eb (min3) a semitone apart. This is just as effective as the G7sus4 chord which sees the C (4th), D (5th) and F (7th) quite closely voiced.

If we look at the way the two chords react with *each other*, again, ultimately much of the effectiveness of the sequence is down to voicing: the top and bottom notes of the string chord voicing in bar one of fig.3 (below, taken from bars three-six of fig 2) move uniformly a tone down and up, creating what would be a parallel feel where it not for the fact that the D note is present in each chord. The intervallic context of the D note evolves from the add2 (of the Cm) to the 5th (of the G), which means we have a simultaneous feeling of something being stationary *and* moving.

Fig.3



Seven *(Howard Shore)*

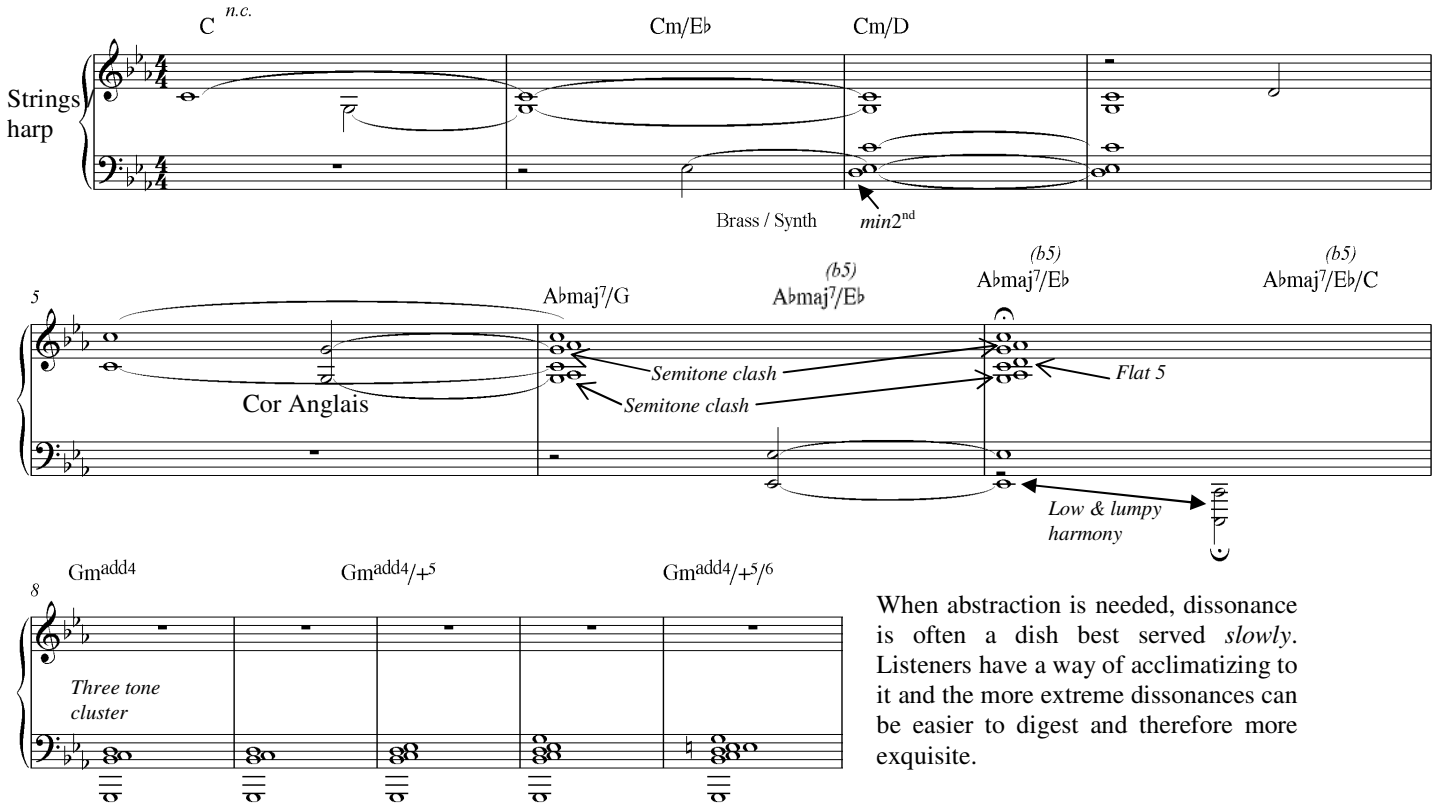
Seven is a tense thriller, with horror elements and distinctly 'noir' overtones. The young David Mills and about-to-retire William Somerset are police detectives on opposite ends of their careers in a case involving a serial killer. Each gruesome murder adherers to one of the 'seven deadly sins' of Catholicism - gluttony, greed, sloth, wrath, pride, lust, and envy. The killer, frustrated by society's ills, creates elaborate murder scenes inspired by the sins.

Shore's orchestral score captures the depressed and claustrophobic feel of the film perfectly; it offers a texturally dark and harmonically skewed perspective using cluster chords and extensions. The music itself manages to mirror our feelings toward the crimes, making us feel ill-at-ease and uncomfortable. The 'bleached process' of photography along with Shore's oppressive music and textures conveys the decay of urban society (the undeniable subtext of the movie) perfectly. Everything sensory about the score to *Seven* is dulled by intention, whether by the music, frequently subtly devoid of harmonic identity, or the mix, which is equally hazy and sonically ambiguous. Shore scores many cues with extremely low brass playing dissonant chords and sequences and employing peculiar voicings.

Cluster chords & voicing

As we have discussed elsewhere, the way people 'listen to' or 'enjoy' music involves conscious or unconscious compartmentalization, categorisation and classification. This is how we listen and how we enjoy; it's probably how we personally associate 'good' from 'bad'. Cluster chords and unusual, unorthodox, dense voicing succeeds in confounding our expectation. Forced to dig deeper into our reservoir of aural rationale, they cause us momentary or even permanent confusion and mild discomfort or excitement, depending on our emotional intelligence and where we draw the line between what is 'music', what is 'sound' and what is simply 'noise'. In music, as in most things, the wisdom of the crowd reigns supreme and most music is therefore written and designed to appeal to as many people as possible, which means frames of reference are quite narrow compared to what music is capable of being, even within the confines of tonality. I say all this because what Howard Shore achieves in *Seven* is a deliberately dense aural landscape of clusters, suspensions, fractured harmony, partial harmony and low voicing. In most film scores which utilize dissonance there is light *and* shade. What makes *Seven* a uniquely effective score is that it contains mainly subtly different variations of shade. It is oppressive and overbearing, dense and deep, uneasy and uncomfortable but in context of the movie it is entertaining. Without the movie the music might be difficult to listen to and without the music the film would arguably be lost. The movie's underlying landscape of tension, fear, anxiety and trepidation is created by an effective story and brilliantly effective photography and music. The track 'Monday' from the soundtrack album is a good example of the effectiveness of Shore's music.

Fig.4 *Audio – 'Monday'*



When abstraction is needed, dissonance is often a dish best served *slowly*. Listeners have a way of acclimatizing to it and the more extreme dissonances can be easier to digest and therefore more exquisite.

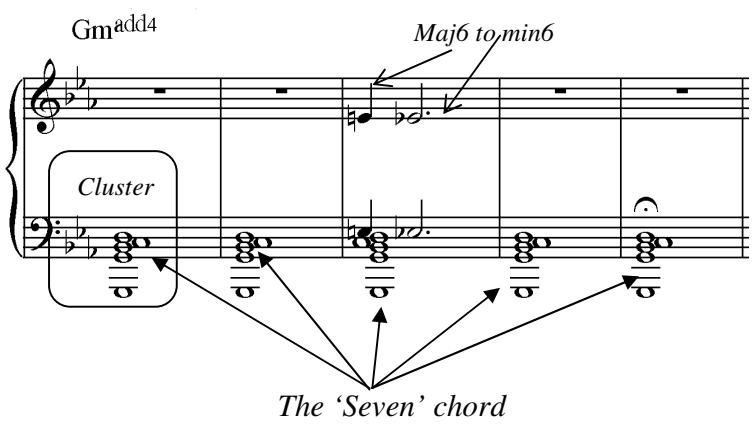
The min2nd clash in bar three between Eb and D creates tension in two ways: the surface-level tension is between the Eb and D but the lesser tension is the 7th between the low D and the C above. This 'sub tension' effectively draws out some of the sting of the more recognisable tension and makes it slightly less jarring. Bar six gives us two identical tensions (maj7 / octave) which are each an octave apart but again we are slightly distracted by the eventual soft Eb inversion which makes the whole experience less *dissonance* and more *tension*.

One interval we're not used to in conjunction with a maj7 is a flattened 5th. The two don't 'work' well traditionally and rarely happen in the same chord, mainly because they create, between each other, a stark and square 4th interval (between the b5, in this case the D, and maj7, in this case, G). Traditional chords frequently contain intervals of a 5th as part of the chord but they're normally between 1st/5th or perhaps 5th/9th; they're rarely between a flat 5 and maj7; but if a composer is trying to create uncomfortable tensions within a chord, these kinds of pressures work well.

If any film's musical identity can be said to be distilled into a single chord, *Seven* can. The chord in question comes numerous times in the film but in the cue below entitled ('Gluttony') we see it in bar one and two.

Audio – 'Gluttony'

Fig.5



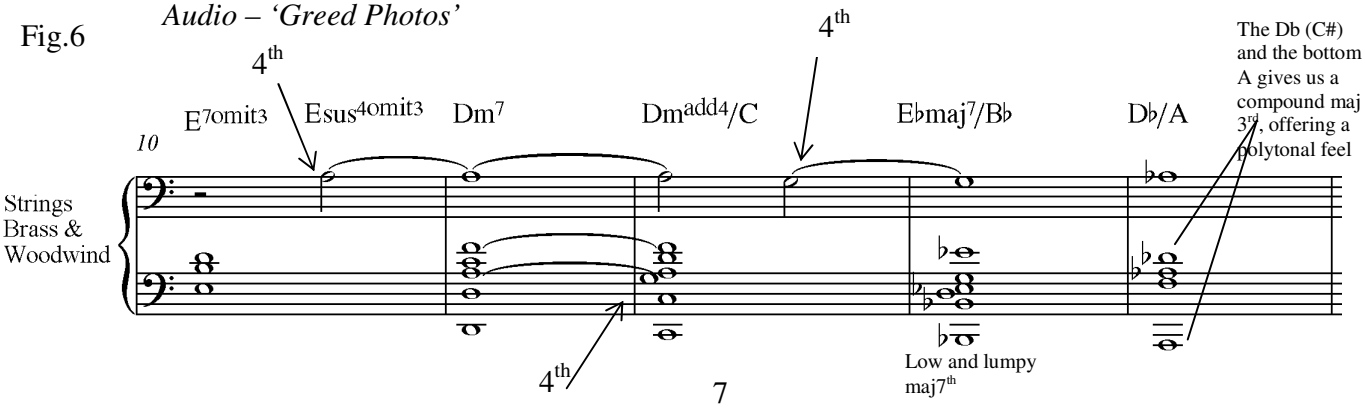
The chord in question (fig.5) is a Gm with two distinct alterations: firstly we have the added 4th. Note that this is not a sus4 which *replaces* the 3rd, but an add4 which 'adds' to the chord. Thus the tension is the 4th a tone away from the min3rd, made more obvious by the second tension – the low voicing on brass which sounds lumpy and sonically awkward.

The real strength and effectiveness of these chords is that Howard Shore lets them linger and dawdle. The chords are long, unwieldy, awkward and drawn-out. Any shorter and the real gravity of the harmonic distortion would be lost. We need to ponder this chord.

The next track is entitled 'Greed Photos'; again, this track also features some odd intervallic combinations and fractured chords, but it also reveals the consistencies in terms of tensions. These are not random or haphazard tensions but are consistent in what they are, how they are applied and how they work.

Audio – 'Greed Photos'

Fig.6

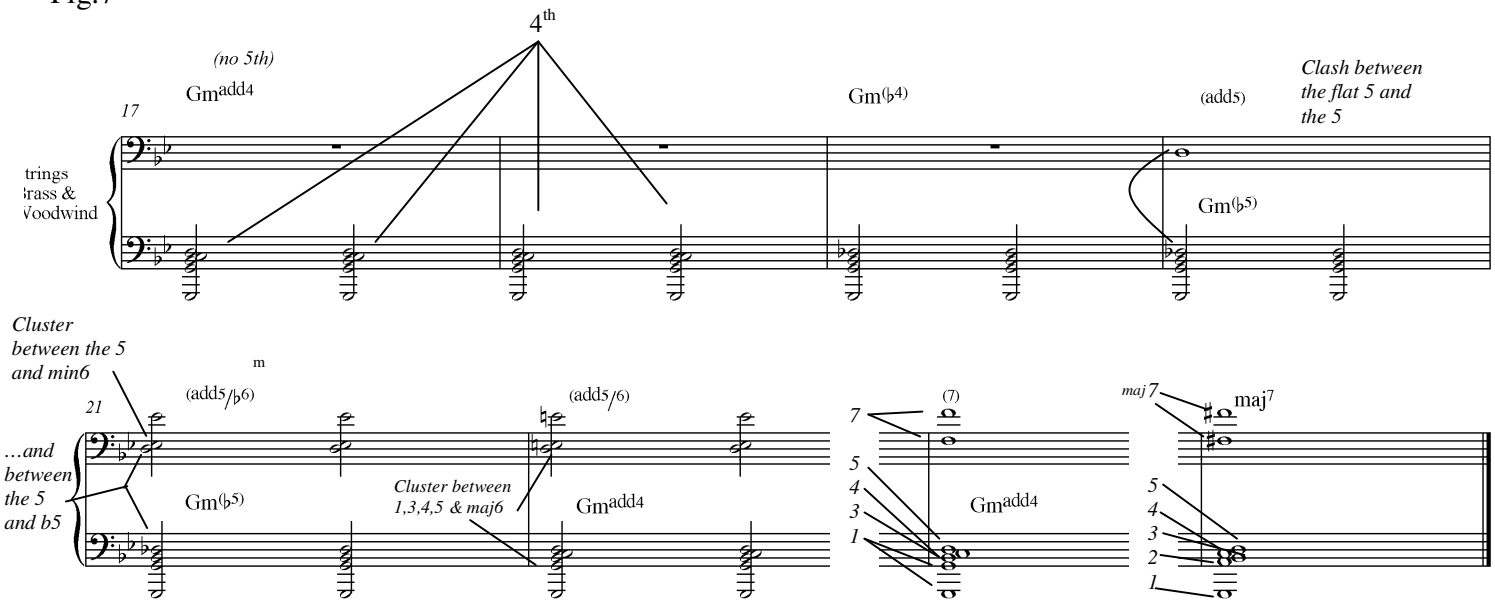


The cue begins with a fractured chord (root, 5th and 7th - no 3rd) and then adds the 4th (A). The trend of using the add4 continues in bar three where we have the G added to the Dm chord. The other palpable tension in this sequence is the low and lumpy maj7th in bar four of the bass stave. This in itself causes mild tension but the addition of the Eb on top of the chord means there are two points of tension (the semitone between the low D and Eb *and* the flat9 between the low D and the octave Eb. Also this chord is itself built over an inverted Bb bass, which creates fractionally more drama. Finally, if we observe the last bar in the cue we have an inverted chord of Db placed over the A bass. This is perhaps not as severe as we first think when we consider that when we isolate the Db and the low A note we have, effectively, what amounts to a compound maj 3rd (10th) interval. These are the vitally important tiny nuances which make chords sound as they do.

The final track from *Seven* is entitled 'Tracy' and begins with 'the Seven chord' which evolves to become aurally dissonant and disfigured thanks to gradual supplemental extensions.

Audio – 'Tracy'

Fig.7



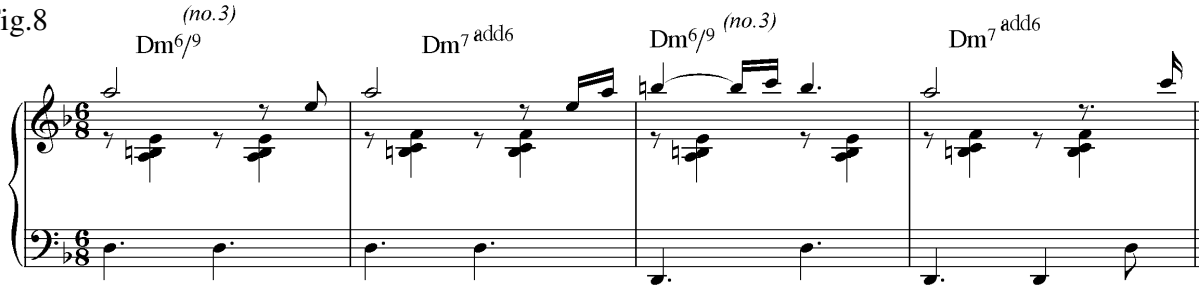
The Game (Howard Shore)

Another brief example of the vivid writing style of Howard Shore is to be found in his intro music for the movie *The Game,* a 1997 noir psychological thriller telling the story of an investment banker who is given a mysterious gift on his 48th birthday: Nicholas Van Orton is a successful businessman who is estranged from both his ex-wife and his brother. He saw his father commit suicide on his 48th birthday and feels anxious now his own 48th arrives.

His brother buys him participation in a bizarre game – a game which interferes with his life in strange and unpredictable ways. As the lines between the Van Orton's real life and 'the game' become more uncertain, he tries to disentangle himself from the 'game' but fails. The most musically communicative aspect of the film's intro is the 'old-style' piano sound which works well with the 'home-movie' style footage at the beginning of the film. Also the way the intervals (and lack of them) work to form an indignant, pained and almost 'injured' sound via the interplay between incomplete harmonies and specific extensions is extremely effective.

Audio – 'Happy Birthday, Nicholas' - Movie – 00.01.38

Fig.8



The first bar contains no defining 3rd interval; moreover, the two extensions it contains (the 6th and 9th) would be common to both the D6/9 *and* the Dm6/9 so there is literally no way for us to determine the overarching flavour of the chord, which creates, along with the instrumental textures, a kind of dreamy indistinct ambiguity. Bar two *does* contain the min3rd but also contains significant colour and tension via the dissonance between the maj6th (B) and the 7th (C). Bar three returns to the ambiguity of bar one via the lack of min3rd, but by this time we probably 'remember' the min3rd from bar two. Thus we have the tactic of harmony by association and innuendo. Seduced as we are into assuming that this is essentially just a bunch of extensions, it pays to observe the structural consistencies that give this piece identity. There are no thirds in bars one and three but there *are* minor thirds in bars two and four. The bars that *do* have the 'normality' of the min3rd (two and four) *both* have the extra tension of the maj6th and 7th reacting with each other. My point is that there is order. When music works and contains a palpable identity, there is normally a pattern to it, however indistinct; some overarching sense of discernible structure or sense of purpose which binds the piece together.

Considering briefly the interaction between the *maj*6 (B) and *min*7 (C) extensions in bars two and four, what distinguishes them is not just the dissonance created by the semitone gap, but the fact that under normal situations the maj6 (over a minor chord) and the min7 are fundamentally different extensions that provide different and specific colour and identity. The maj6 (over a minor chord) creates a very explicit, colourful and quite theatrical sound, and therefore 'feeling'. It is to be found in Bond movie scores. The min7, on the other hand, is a much more 'normal' sounding extension. Under normal conditions you might use one or the other, but rarely both, simultaneously, in the same chord.

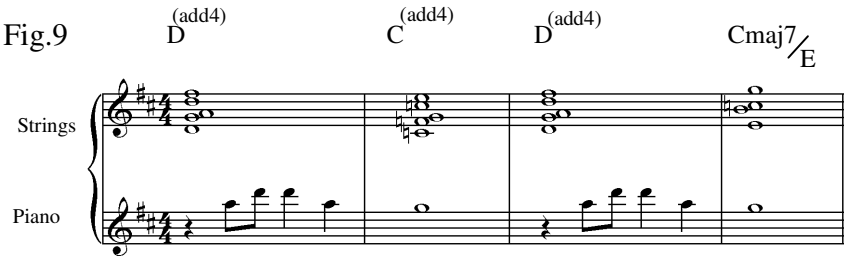
Finally, if we consider the intervallic relationships forged by the addition of the B note, we are generally conditioned to think in terms of the way an extension relates to the root note, in this case the D. But, as we have discussed elsewhere, often a much better indicator of how and why a specific extension sounds as it does is the relationship between it and the 3rd of the chord. The 3rd creates much of the warmth of a chord; it is a 'descriptive interval' – it literally colours the chord distinctively as either major or minor. In this case the relationship between the F (min 3rd) and the B (maj 6th) is a #4 – a distinctive and filmic interval.

The Sixth Sense *(James Newton Howard)*

We cover the music for this movie in greater detail in the chapter 'How Harmony Speaks' in volume 1, but here it serves as another brief example of specific reactions caused by using intervals which don't normally, or traditionally, exist *together*. This can be found in a track entitled 'Malcolm's story'.

Audio – 'Malcolm's Story'

Fig.9



What makes this piece transport emotionally? If we play the first three chords at a glance we can see and hear that the tensions exist between the high 3rd (F#) on piano and the 4th (G) voiced an octave lower on strings (top stave).

As stated before, when we see/hear a 4th it's normally a 'sus4' which displaces the 3rd; it's normally an 'either/or' scenario; you can have the 3rd or you can have the 4th – one or the other. To hear the 3rd and 4th together in the same chord, even if they are separated by nearly an octave, is odd.

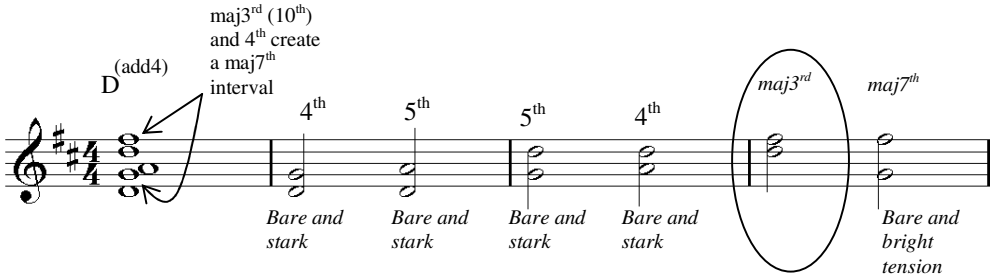
It is one thing to merely *identify* the odd combinations, but in order to ascertain *why* they create the tensions they do, we need to look beyond a simple surface-level explanation such as 'they simply don't go' or 'they sound weird'. The maj3rd provides a very precise, specific and descriptive colour to a chord. The 4th also adds a very exact and memorable tension to a chord; but they do different jobs and have different functions. The two *together* provide a unique and tense sonic combination, not entirely unlike the sensation of seeing and tasting two types of food which normally would never go together (marmalade and marmite?) or two items of clothing whose colours react badly. A semitone gap in and of itself doesn't necessarily always provide the kind of dissonance that the maj 3rd and 4th together do. Here the dissonance is created because of the semitone clash which involves the highly colourful and disproportionately powerful 3rd.

It's also worth reminding ourselves at this point that notes and intervals have no intrinsic power by themselves – only *our relationship with them and reaction to them* gives them an identity and a character which we then decide is okay or dissonant and difficult. It's our human reactions - punch-drunk and dumbed down by the great triumph of hundreds of years of traditional harmony and aural conformity - which informs and guides our listening.

In terms the first three bars of 'Malcolm's Story' (fig.9) the maj3rd is not literally right next to the 4th (a semitone apart) which would result in dissonance; it is *on top* of the chord, so although we don't get the semitone clash we *do* get the exposure of the F# (maj3rd interval) being italicized. As stated earlier, of all intervals the maj3rd is the most descriptive and colourful. Where we place it in a chord is crucial; as a 10th built over a bass and 5th used in low/medium string voicing the 3rd creates a sense of lush warmth. By contrast a high maj3rd creates a palpable shrill directness. In the first three bars of fig.9 the interval between the 4th and the octave 3rd is *itself* a major 7th, a very bright interval. This is ultimately what creates the slightly strange 'tension' rather than 'dissonance'.

Indeed if we look at some of the individual intervallic dynamics in the D (add4) chord, extracted, distilled and isolated in the bars below, we can see how the tensions, characteristics and specific colour of the voicing are built, created and delivered.

Fig.10

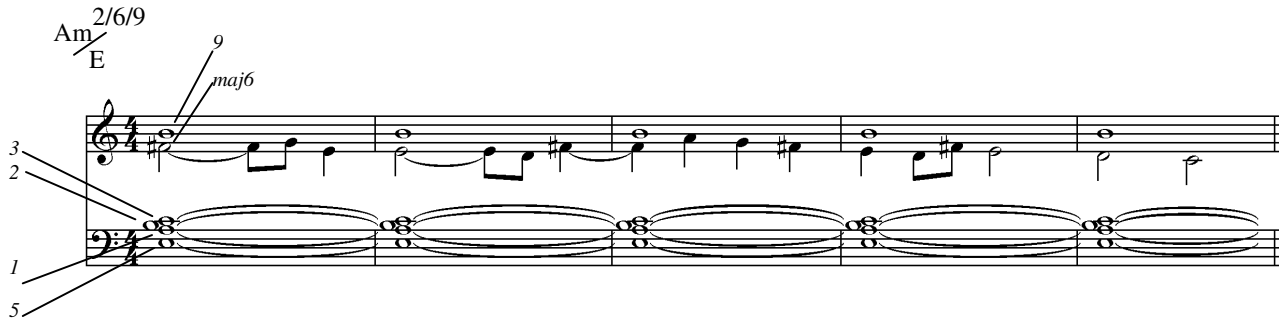


The only 'nice' interval in the myriad of different intervallic relationships within the first three chords of fig.10 is the maj3rd (circled). The rest are stark 4ths, 5ths and a bright maj7th which represents the clash between the added 4th (G) and the maj3rd (F#). In many ways music isn't the notes; it's the space between the notes. Vertical intervallic 'space', something we can't independently hear or assess or 'feel', decides the flavour of how two or more simultaneous notes will sound.

The Bourne Ultimatum *(John Powell)*

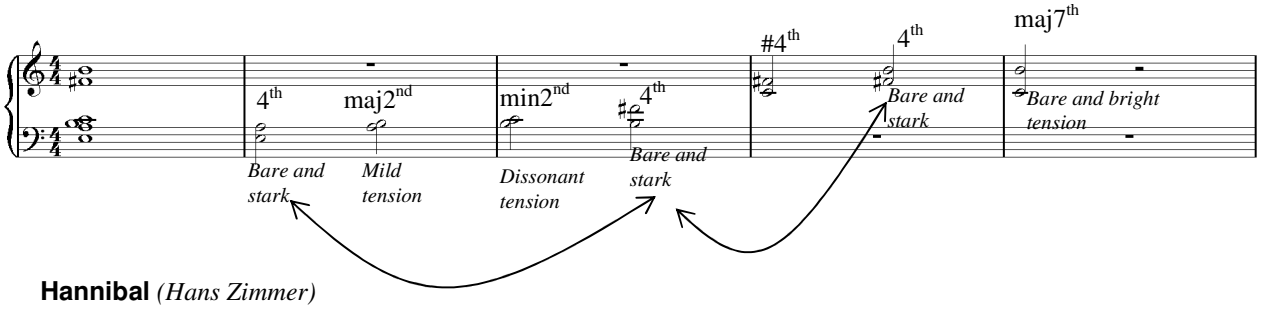
Similar tensions are to be found in a piece entitled 'Six Weeks Ago' from *The Bourne Ultimatum*

Fig.11 *Audio – 'Six Weeks Ago'*



This piece doesn't have the specific and peculiar colour contained in the last excerpt because the same exact tensions don't exist. However, if we deconstruct the chord from bar one of fig.11 we can identify what makes it work. Again, it sometimes isn't enough to simply say that the 6th and the 9th are 'colourful intervals'. The chord sounds the way it does because of the specific intervallic dynamics created within the chord; the harmonic relationships that exist between the notes. The intervals in the initial chord from bar one of fig.11 are notated below (fig.12). We can see a few bare 4th intervals but also a min2nd, maj2nd, #4 and maj7th. All these tensions and colours combine to create the chord we hear. Obviously the feeling of specific harmonic 'colour' is primarily created by the use of extensions but it is a combination of those and other intervallic dynamics which create the whole colour.

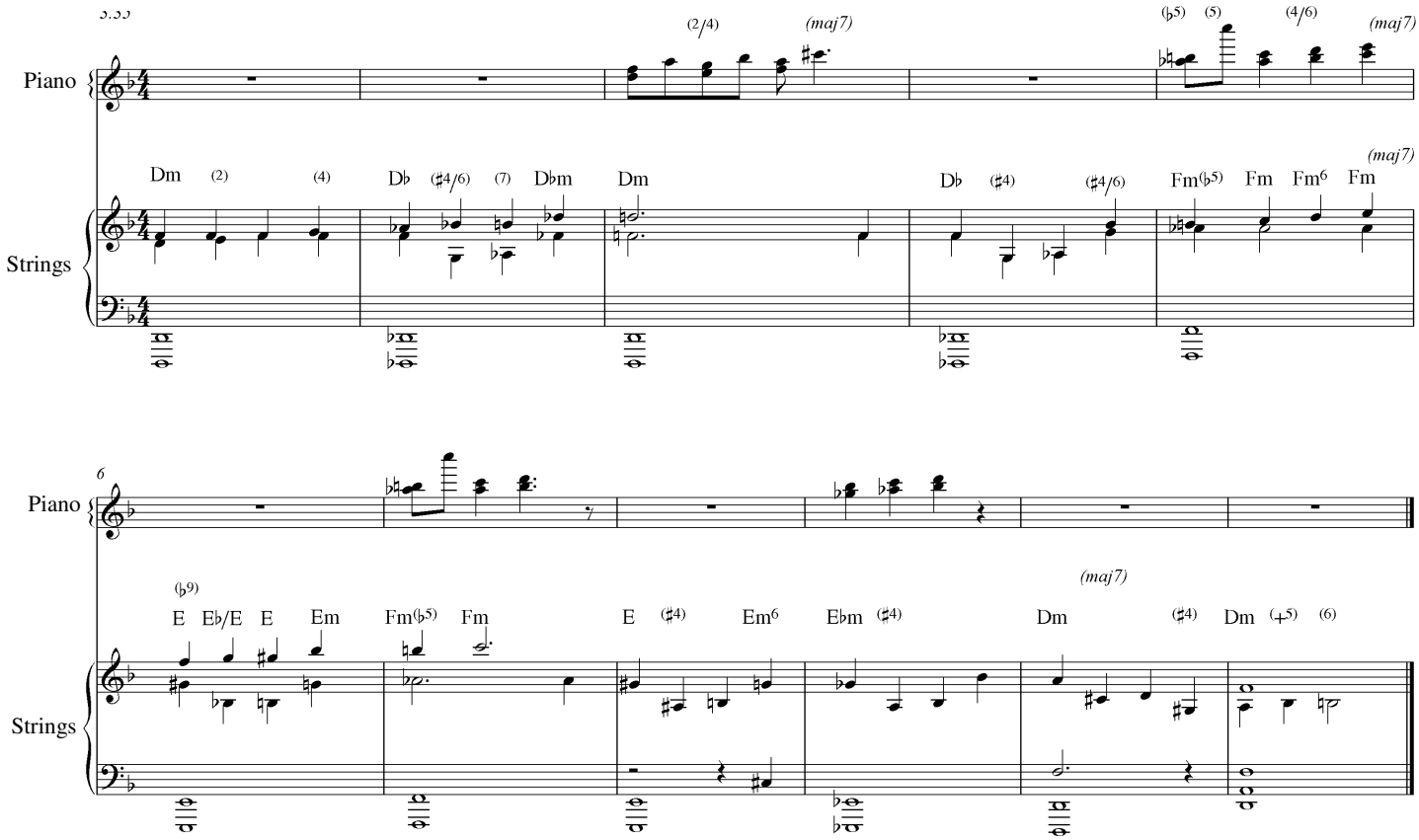
Fig.12



Hannibal *(Hans Zimmer)*

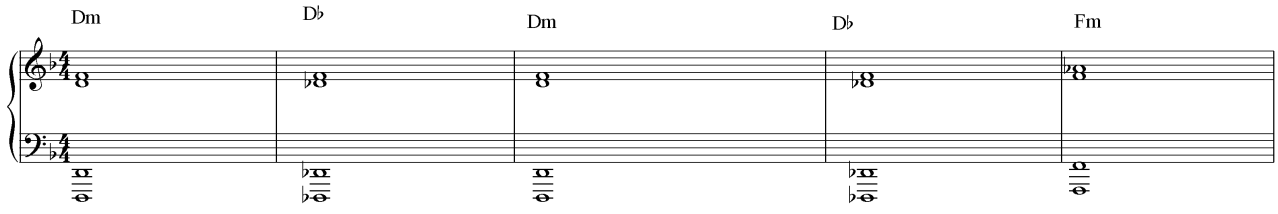
Hannibal is an American psychological thriller sequel to the 1991 film *The Silence of the Lambs* and sees Anthony Hopkins reprise his iconic role as serial killer Hannibal Lecter. Director Ridley Scott said the underlying emotion of the film was 'affection' and admits to a 'romantic theme' running though the film. Composer Hans Zimmer said there were many messages and subtexts in the film, also saying that he could have scored the movie as an archetypal *Beauty and the Beast* fairytale or as a horror movie.
Zimmer ultimately settled for what he called a 'pained love story', and this approach shines through in his music. Zimmer used what he called a "very odd orchestra...only cellos and basses all playing at the extreme ends of their range to emphasize Anthony's character; somebody at the extreme range of whatever is humanly imaginable". Perhaps a good way to acclimatize to Zimmer's way of thinking is to analyse part of a track from the soundtrack album itself, entitled 'Dear Clarise'.

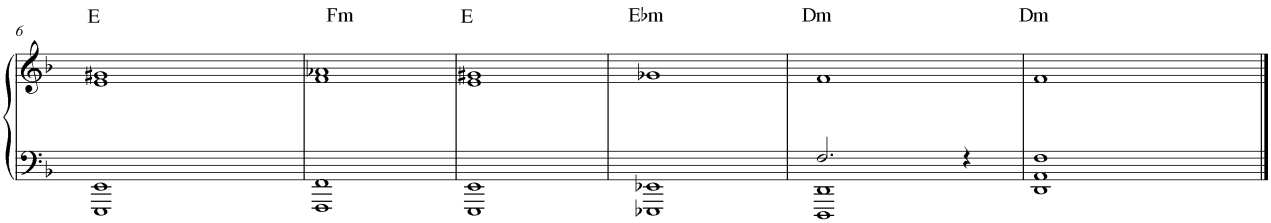
Fig.13 *Audio – 'Dear Clarise' 03.35*



In trying to analyse how and why this section works so well it is easy to fail to see beyond the myriad of extensions in most bars and simply assume the harmonic variation and tensions created by the extensions *are the reason*. However, if we reverse-engineer the sequence and attempt to deconstruct it we come closer to unraveling the complexities and possibly finding out how and why the piece works. Below is simply the implied chord sequence on which the supplemental harmony, melody and extensions are built.

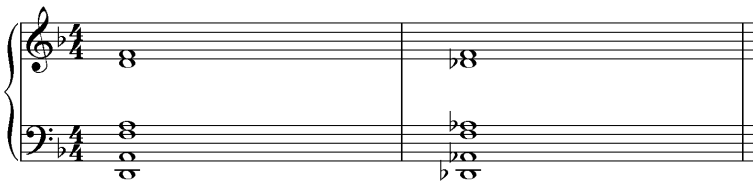
Fig.14



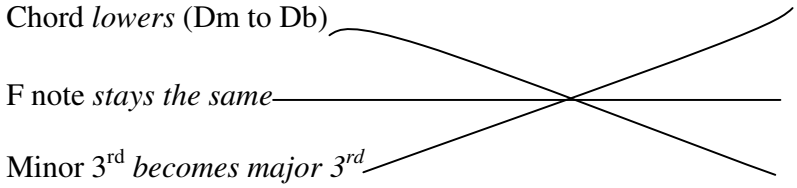


Looking at the underlying chords we can see that from bars one to eight Zimmer makes great use of a harmonic device we've looked at numerous times; dropping from a minor chord to a major chord a semitone lower. This unique and filmic chord sequence works because the note which represents the minor 3rd of bar one and three (the F) is also the note which represents the *major* 3rd in bar two and four; the point being that the note/sound remains the same but what it 'means' (what it represents as an interval) changes *upwards* from min3 to maj3. This manouvre is particularly good because the 3rd – as we have established elsewhere numerous times – is a rich, colourful and disproportionately powerful interval. Any manipulation we perform which, because of surrounding context makes us *hear* a min3rd and then a maj3rd *from the same note* is going to provide exceptionally vivid harmony. This is because it is our interpretation (our feeling that although the note remains, it does something different) which guides our perception.

Fig.15

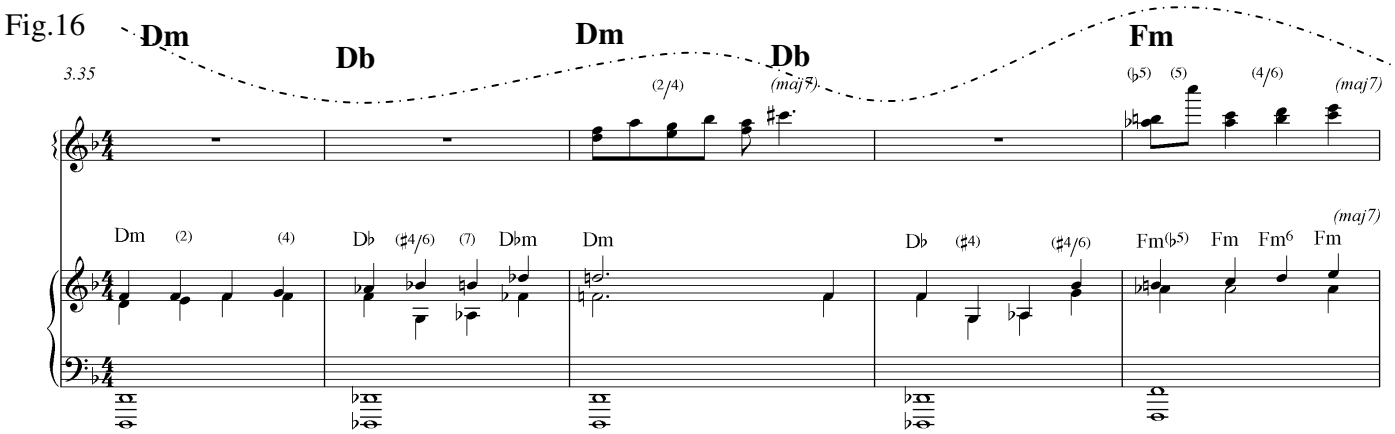


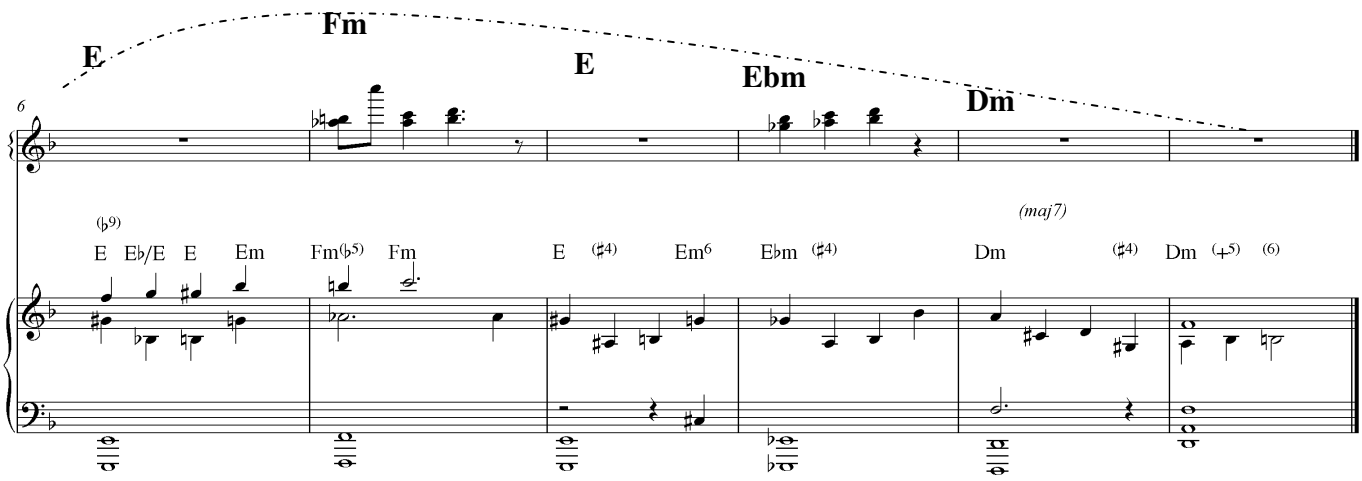
This is an extremely successful and much-used harmonic device which possesses a palpable strangeness – the strangeness is the fact that we have the impression that something has changed *whilst remaining the same.*



The same maneuver happens again: the *minor* 3rd in bar five and seven (Ab) is the same sound as the note which represents the *major* 3rd in bar six and eight (G#). A filmic harmonic device therefore is the central chordal basis on which Zimmer builds his extensions. So although the final version of the piece is resplendent with colourful extensions and tensions, what defines the undoubted dissonances and makes them exquisite rather than chaotic and unbearable is not *just* the intervals; it is what they are anchored to – common, consistent, steady, regular chords in which the 3rd plays centre stage.

Fig.16





If the implied chords (Dm, Db and Fm, E) were to change at the same rate as the extensions which accompany them, there would be no central anchor point; no point of reference for listeners, no context. The only reason the multitude of extensions work at all is because they are tempered by the much slower rate of change of the basic chord shape underneath (fig.16).

The conformity, stability and safety of the underlying chords represent a 'bed' on which to place the myriad of obscure and tension-filled harmonies. The rhythmic simplicity of the line (almost constant crotchets) is also non-distractive. There are also structural and harmonic consistencies within the barrage of extensions. The second bar in each two-bar phrase begins with a downward line in the lower part of the middle stave counterpoint. In these bars the interval stated by the second note mostly represents the #4 – a classic filmic interval.

The enduring legacy of Bernard Herrmann

If we are to seriously examine how and why offering a 'skewed' harmonic perspective alters listeners' perceptions of reality and why, therefore, it works well in some film environments, we are drawn inexorably toward the work of Bernard Herrmann. His influence on film music, along with John Williams, is arguably greater than any other film composer. The shadow cast by Herrmann's vivid, eclectic and original approach to film scoring permeates through the art of movie composing like no other influence. History cannot get past Bernard Herrmann and John Williams, such is the indelible affect they had, and continue to have, on music for the moving image. Few can match their fertile imagination or breadth of creativity and originality.

Melody, harmony and Conceptualization

For most, composing is something which is inextricably linked to performance; we conceive ideas through the transfer of information and 'inspiration' from the mind through to the hands. Because of this entirely natural process we tend, inevitably and understandably, to produce music which *sounds* like it's been performed during its conception; there is an inevitability and predictability to music which is itself the result of the process of composition being so closely wedded to the limitations we experience when performing. For many, composing is only as effective as their imagination as a performer or improviser allows them to be. Also, there is a seductive tendency for rationale when one performs or improvises which bleeds over into composition.

This works most of the time because when people listen to music what they *want* is a performance. The safe haven of rationale and the pragmatist within us is, after all, what helps us construct music that people are going to want to listen to. It stops us going off the deep end. It reins us in.

There is something which is inherently egotistical and even slightly Thespian about the process of composition in general. It is reflection of who we are so it is not usually simply a humble artistic statement but, certainly with song, a product of vanity, pride and even narcissism. 'Normal' music is kept in check by one of its most enduring, endearing but also limiting features: the need to entertain. One of the other great limiting devices is the concept of melody; the idea that music is beholden to a singular italicised entity, toward which everything else gravitates. Because of these factors music is usually 'goal orientated' - it is a story with a beginning, middle and end and just to keep us focussed it happily repeats sections of itself lest we forget what the point is. Because music for the moving image doesn't necessarily carry the burden of commercial expectation and the need for it to entertain 'as music' there is actually no need for it to always adhere to the restrictions and conventions normally imposed on composers. It is quite interesting to note that the film composer's film composer, Bernard Herrmann, thought little of conventional melody. He thought melody was a simplistic, crude and restrictive device and often far too basic to convey the often complex emotions film music was supposed to portray.

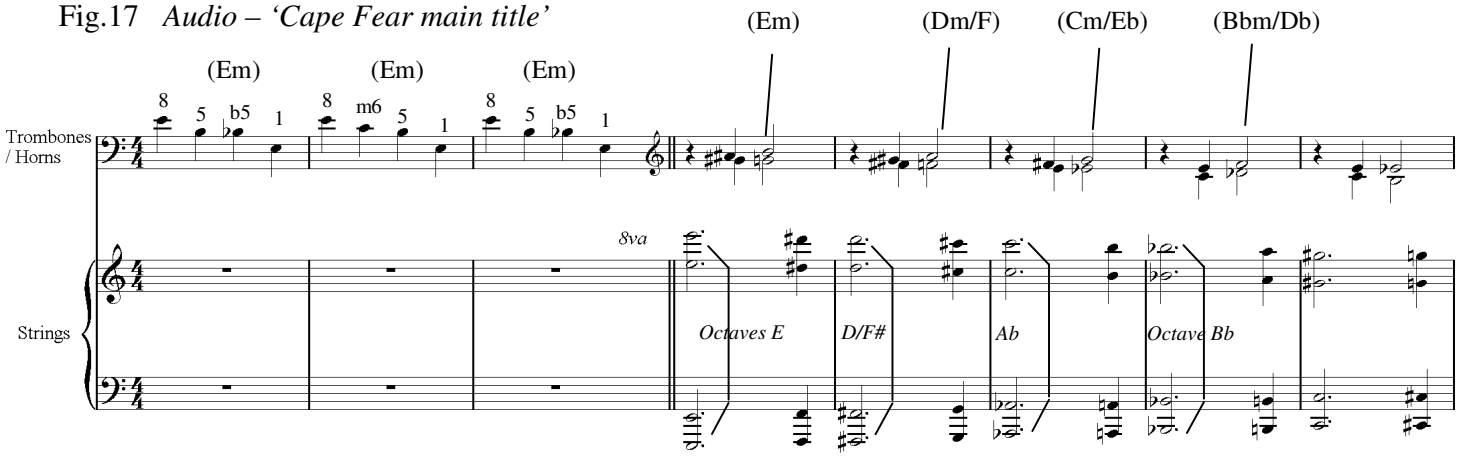
Many of Herrmann's most enduring motifs and bursts of harmonic energy were sometimes the product of rampant naked conceptualisation, unhindered by the need for them to entertain and unhindered from being performance-lead. When the mind conjures up ideas and commits them straight to the page, the kind of ideas which sometimes take shape can be refreshingly unlike ideas which are the product of performance. Herrmann's biggest strength was the level to which he conceptualised before he committed himself.
In Herrmann's case some of his boldest and most abstract ideas were the product of a *process* of conceptualisation which then informed his imagination which lead to great ideas. Obviously to imagine that he rarely went near a piano is absurd, and I am not suggesting this. What I am saying is that many of his ideas were initially the product of imagination and conceptualisation not encumbered, hindered and burdened by constant performance during the process of composition. As a composer it is indeed an interesting idea to attempt to compose without an instrument. People generally eschew such an idea as being impossible for those without 'perfect pitch' (the ability to hear everything in their heads). This is wrong. When composers without perfect pitch but with a great knowledge of harmony and its effects, try conceiving ideas based on what they *imagine* it might sound like, instead what they *know* it sounds like, it can garner the kind of ideas which might not have penetrated a more performance-lead process.

Even if only one in ten ideas ever survives and the rest is nonsense, that idea benefits from being conceived outside the normal restraints of performance-lead composition. This is what led much of Herrmann's music to sound so refreshingly abstract; it wasn't just the music that was different; it was the approach, the methodology, the process, the philosophy, the mind-set. We live in an age where the art of conceptualisation is indelibly tied to performance; so much so that most composers would think it absurd to attempt to compose without performing and listening aurally to their ideas as they are created. But if we want to think like Bernard Herrmann, remember he thought little of convention. For him it was all about subverting the perception of music and challenging people's expectations. He tweaked and twisted our musical expectations better than most commercially successful film composers.

Cape Fear (Bernard Herrmann)

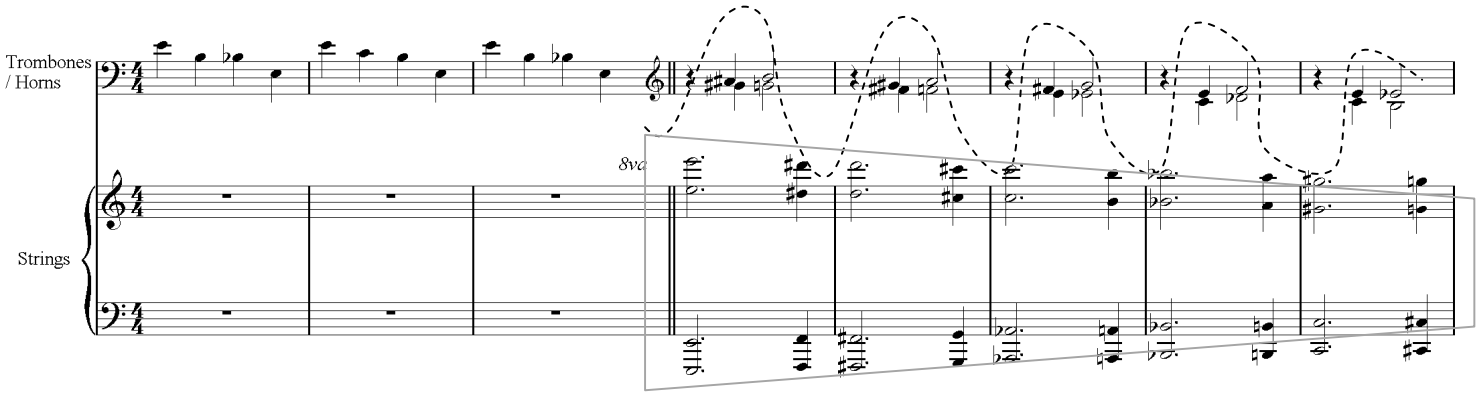
In the 1992 remake of the 60s classic, Robert De Niro plays psychopathic rapist Max Cady, released from prison following a lengthy prison term. Cady thinks his trial attorney didn't defend him properly so sets about persecuting his family. Herrmann's score was used in both versions of *Cape Fear* and the 1992 version benefits from an eerie and overt dislocation in time between the score being written and then subsequently placed against the newer film. One of the most striking and aurally emblematic sequences was the fear-provoking introductory theme where the tension is palpable, disorientating and formidable. Herrmann completely dislocates our normal perceptions of harmony and melody in this sequence. Bar one, two and three imply Em, with the interplay between 5^{th}, $min6^{th}$ and flattened 5^{th} representing the real movement.

Fig.17 *Audio – 'Cape Fear main title'*



But what constitutes the melody in bars three to seven? Is it the horn counterpoint on the top stave, or the descending string line on the middle stave, or the ascending string line on the bottom stave? Truthfully it is dependent on how we rationalise it as listeners, but the fact that there are three options is disorientating enough. Herrmann wasn't overly fond of melodies; he was a fan of abstract harmony and short melodic phrases, but even then phrases tended to be accompanied simultaneously by *other* phrases. It is telling that the different lines move on different beats of the bar; if we draw a melodic contour based on what could, theoretically, *function* as the melody, we are drawn perhaps to a combination of strings and horns (represented by the perforated line).

Fig.18

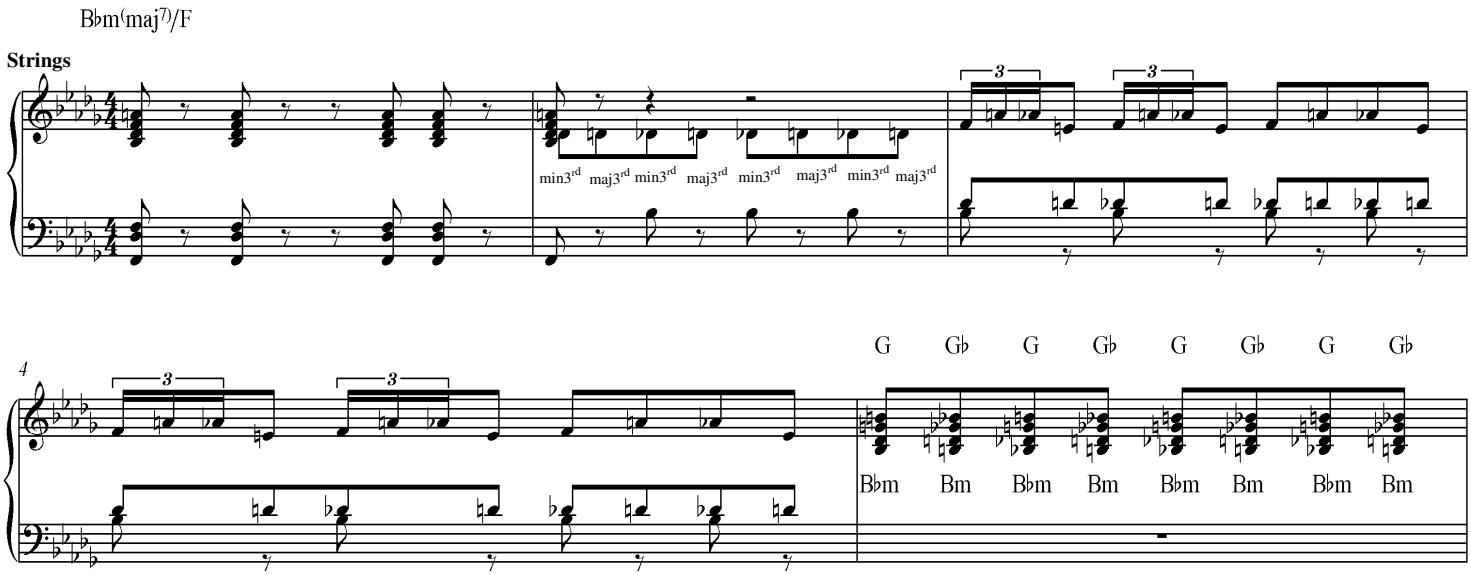


The various abstract and dissonant harmonies only 'stack up' and make traditional harmonic sense sporadically. But do not think 'sporadically' means 'accidentally'. With Herrmann, like Williams, nothing is here by accident or to fill in the gaps. Every note, every harmony and every space is deliberate and has a purpose; a function. The lack of any apparent sense of 'total' harmonic centre is disorientating but this is juxtaposed by the clear sense of *physical* movement and direction via the contrary motion between the top and bottom ascending and descending string lines. Individually the horn harmonies on the top stave have their own suggested harmonic identity and the ascending and descending string lines infer their own identity too (displayed in fig.17). Independently they work but together they exist mainly as polyharmony. Herrmann expertly harnesses the disorientating power of abstraction to create unease and awkwardness.

Psycho (Bernard Herrmann)

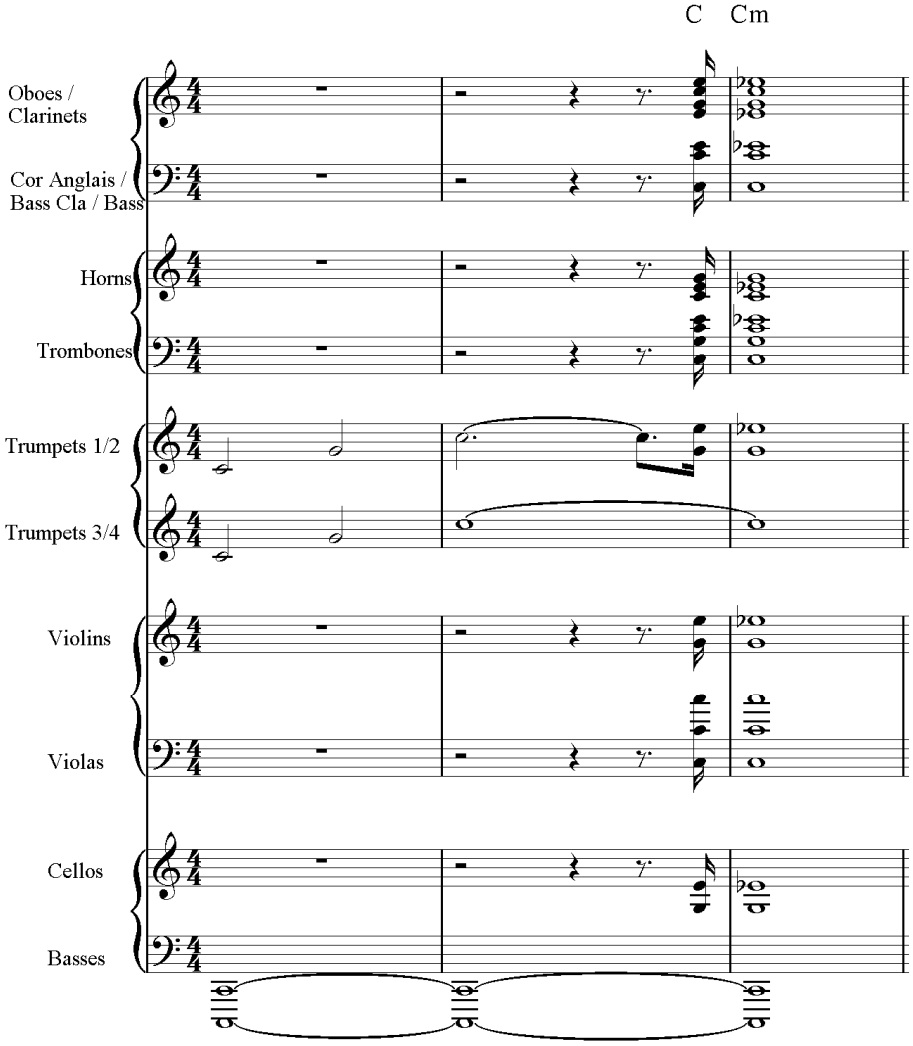
Psycho is a landmark 1960 Hitchcock film which depicts an encounter between Marion Crane, a secretary who stays in a secluded motel, on the run after embezzling money, and the motel's psychotic owner Norman Bates. *Psycho* is retrospectively considered one of Hitchcock's finest films, is highly praised as a work of cinematic art and has been referred to as the 'first psychoanalytical thriller'. Hitchcock famously said that "33% of the effect of *Psycho* was due to the music". Quite how he arrived at the figure of 33% is not clear but the comparatively low budget for the music galvanized Herrmann, who used it to his advantage by writing for a string orchestra which he called a 'monochrome accompaniment to a black and white film'. Hitchcock had allegedly wanted a 'jazz' score but what Herrmann produced was something much, much more memorable. Herrmann proved conclusively with his scores (and particularly with *Psycho*) that music doesn't have to be something people can sing, hum, restate or repeat aurally or even within their mind in order to be effective. It does not have to be pretty or tuneful. People did not walk down the street whistling the music from the shower scene in *Psycho*, but it still remains arguably the most famous examples of film music. What people remember is not the music but the experience. The strings are arguably the most versatile section of the orchestra; they gave Herrmann access to a wider range in tone, dynamics textures than any other instrumental group would have. The main title intro music is a tense piece which sets a tone of impending doom and imminent danger. The theme returns several times in the film. Just like *Cape Fear* and other Herrmann films, he set the tone of the movie when the pictures and/or graphics didn't give much away.

Fig.19 *Audio – 'Prelude' from Psycho Film 00.00.06*



As we have established numerous times, the 3rd is *the* defining interval; *the* descriptive interval. When we emphasize or italicise a 3rd melodically we make a piece richer; if we omit the 3rd from a chord the chord lacks a 'traditional' identity.

Fig.20 Also Sprach Zarathustra (Richard Strauss)



Therefore any rapid fluctuation between a major chord and minor chord based on the same root (C to Cm, etc.) can be disorientating and effective; the senses have no perception of key centre; no aural centre of gravity. Perhaps the best example of this in action is in the opening bars of Also Sprach Zarathustra by Richard Strauss, most memorably used as the iconic opening music to Stanley Kubrick's *2001: A Space Odyssey*. One of the most dramatic moments ever written in music is made exciting and acute partly by the rapid fluctuation between C major and C minor (and subsequently C minor to C major).

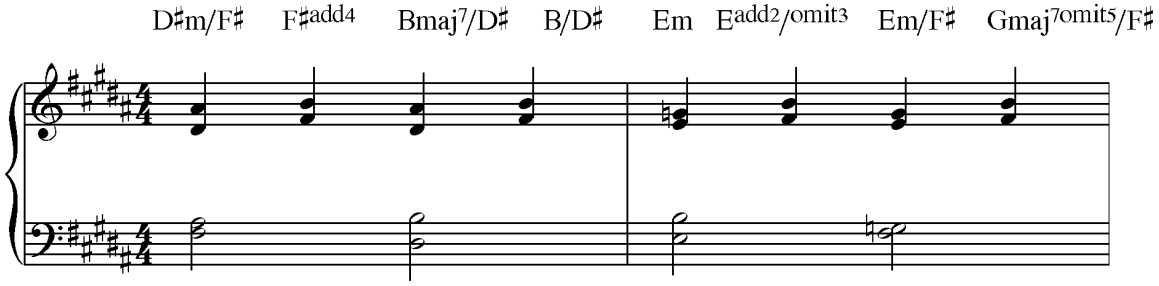
Herrmann's harmonies in bar two of 'Prelude' (fig.19) fluctuate wildly between Bbm and Bb major. Truthfully unlike Also Sprach Zarathustra it is probably too quick for us to 'hear' the changes properly. But one can still be wrong-footed by a sense of the suggestion rather than the actuality.

The addition of a major 7th onto a minor chord in bar one of Prelude (fig.19) is disorientating enough, but Herrmann skews perspectives further by inverting the chord over the F. Herrmann does what he has done on so many film scores; he's taken a chord and altered it significantly, almost to the point of non-recognition. Herrmann proves that there is no such thing as inherently 'weird' chords.
What makes chords sound weird is that they are *based* on 'normal' chords; they are chords where normality has been altered, skewed, twisted and slanted but it is the reaction between normality and abstraction which listeners are drawn to.

Composite composition: *music by innuendo, suggestion and implication*

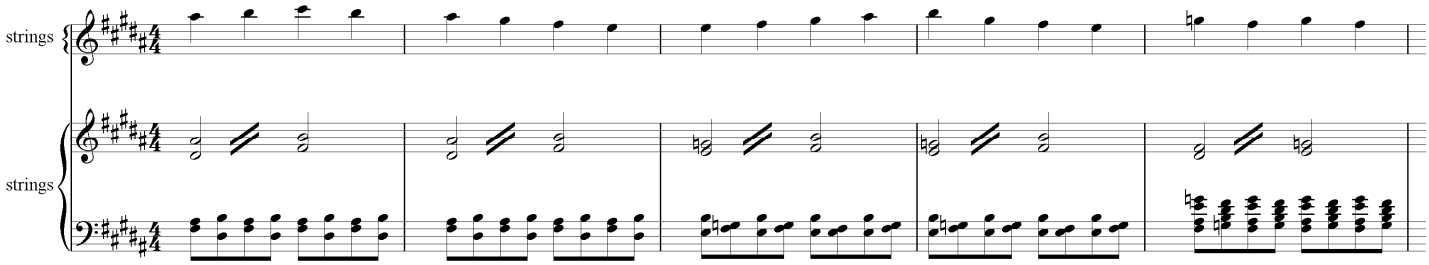
In the example underneath (fig.21) we see several different chords. Whereas the bass clef notes change once every two beats, the changes to the top, which change every beat, mean the harmonic identity of the chord as a whole changes subtly each crotchet, which generates a different chord symbol every beat.

Fig.21



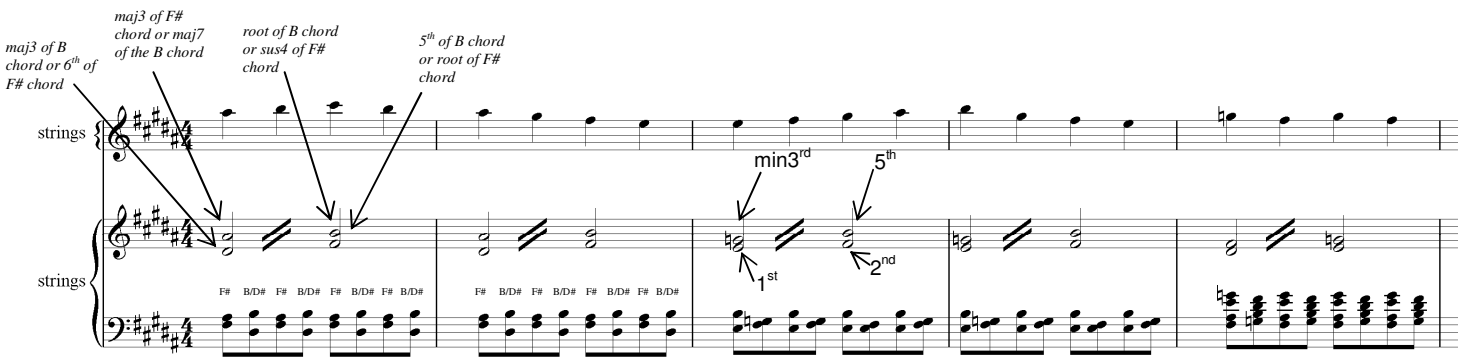
In the excerpt below (fig.22) from the same opening cue from *Psycho*, we can see a traditional melodic crotchet line. Played alone without the accompaniment we could be fooled into thinking Herrmann had begun writing 'nice tunes'. However, when we examine closely the harmonies underneath, we can see bars one-two operate like a composite version of bar one of fig 21 and bars three-four operate like a composite version of the second bar of fig 21. The harmonies which support the melody in this section of 'Prelude' are so quick and change so rapidly that they make any kind of exact harmonic rationalization impossible; what we are left with is the feeling of a chordal blur – a literally nebulous and blurred version of a much more exact harmony.

Fig.22 *Audio - 'Prelude' 00.33*

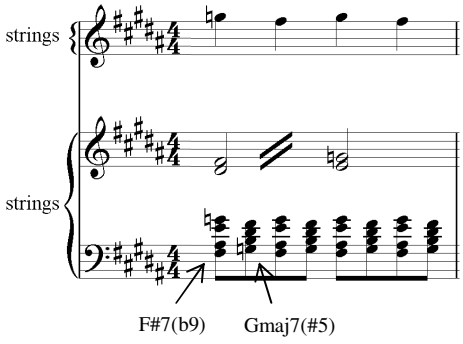


What this section of the cue offers the listener is the merging of different chords to create subtle, abstract incomplete, undefined music. In order to prove this, look at the accompaniment below, in particular the different chords implied.

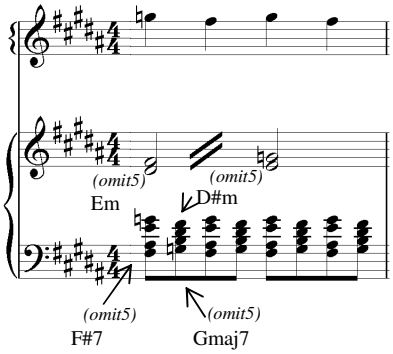
Fig.23



Looking at bar five in fig.23 (above) which is transcribed separately below (fig.24) we can see it contains classic Herrmann poly-chords. The two notes in the first chord of the top stave seem to represent *either* the maj 3rd and 5th of a B chord *or* the root and min3rd of a D#m chord with the second chord being an almost complete Em. Looking to the accompanying quaver harmonies in the lower stave, there are different harmonic interpretations. The first 'version' below left (fig.24) sees the accompanying chords as singular, albeit complex, chords.



However the version to the right perhaps functions as a 'phonic' interpretation; this is literally what we hear. We *hear* poly-chords; the top two notes of the quaver chords state one 'reality' and the bottom two notes imply another.

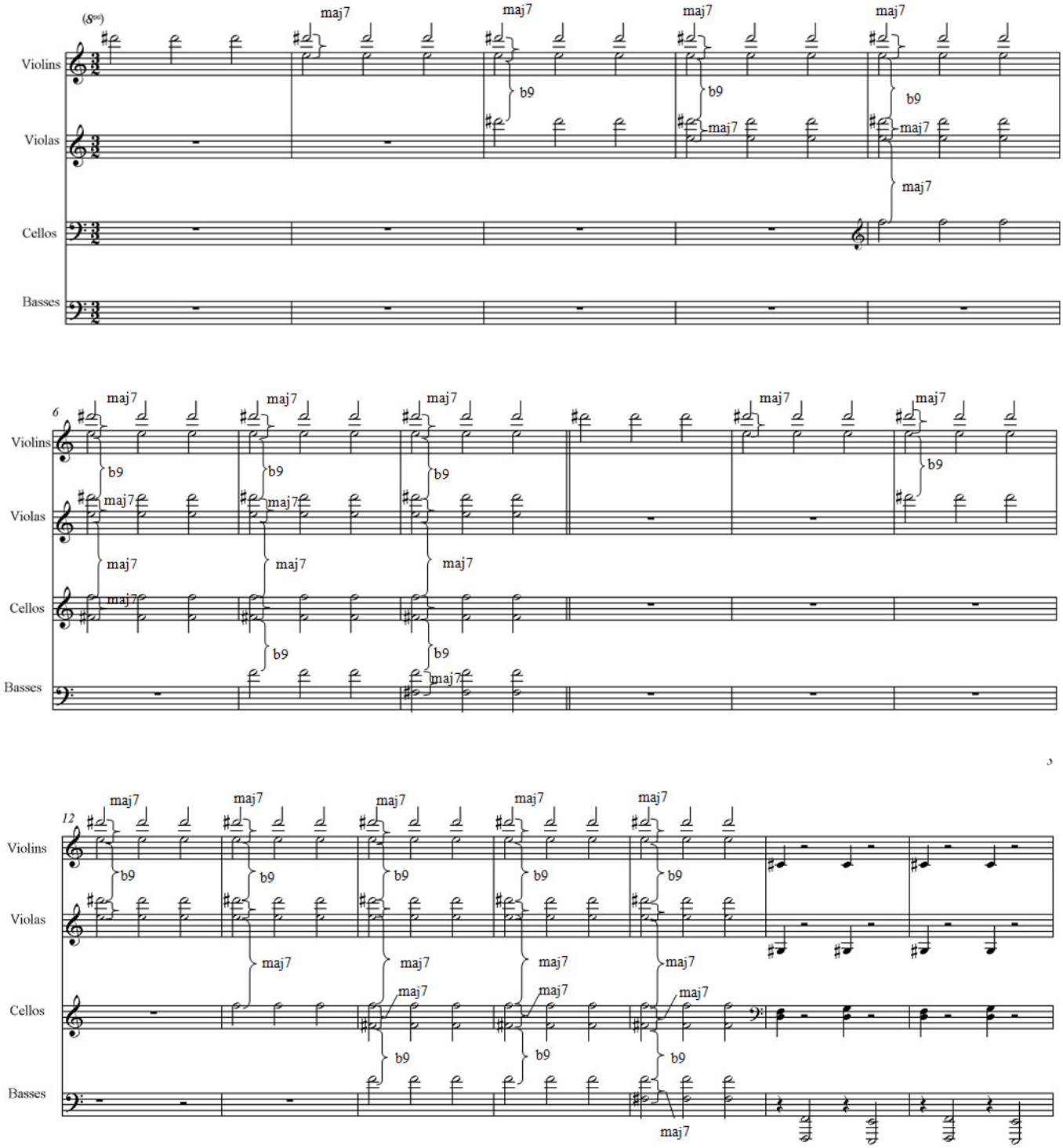


Of course, the final icing on the cake, the inevitable Herrmann sense of structure and voicing, means that the top two notes of the quavers run in a contrary direction to the two bottom notes, offering the piece a sense of physical unity and structure. What Bernard Herrmann exploited and exposed more than most composers was our reaction to harmony and the way our perspectives and perceptions can be manipulated, skewed and subverted. He often wrote to deliberately exploit our reactions to intervals. He looked at music in a completely different way to most composers. Ultimately of course we all write in intervals by definition, but the difference is that Herrmann was a composer who instinctively knew how to extract every drop of colour from harmony via understanding how intervals work and affect us. If we looked at a famous painting, say by Monet, but one which had been subverted so the sky was painted red and the trees blue, this would be an example of a manipulation of our visual senses; one which challenged our expectations and our systems of categorisation and classification of the world in which we live. We classify harmony in the same way. We listen with expectation and anticipation. We listen with prejudice. Herrmann knew this and he exploited it.
"You can do what you want, but don't score the shower scene".

Allegedly these are the words spoken by Alfred Hitchcock to Herrmann before Hitchcock went on holiday, advising him what *not* to score on *Psycho.* When Hitchcock returned
Herrmann, perhaps inevitably, played the shower scene cue to Hitchcock. The director approved its use in the film and when Herrmann reminded Hitchcock of his instructions not to score this scene, Hitchcock replied, "Improper suggestion, my boy, improper suggestion". Some thought that because the sound the strings made in the famous and iconic music for the shower scene was so 'screeching' and 'shrieking', Herrmann had used electronic instruments. The effect was achieved solely with violins performing a 'screeching, stabbing sound-motion of extraordinary viciousness'. The only way in which technology played a part in the complexion of the sound was in the deliberate placing of the microphones close to the instruments, to get a harsher sound.

Such is the impact it had on cinema and music history, a 2009 survey showed that the British public believed 'the shower scene' contained the scariest theme from any film. All film music is a product of the context in which it is heard so no doubt the scene itself informs and shapes our perception of the music and vice versa; the shower murder is the film's pivotal scene. It is the film's narrative centre of gravity. Most of the shots are extremely quick close-ups. The combination of the close shots with their short duration, aided brilliantly by Herrmann's 'psychotic' strings, drives the scene.

Fig.25 *Audio – 'The Murder' Movie – 00.45.32*

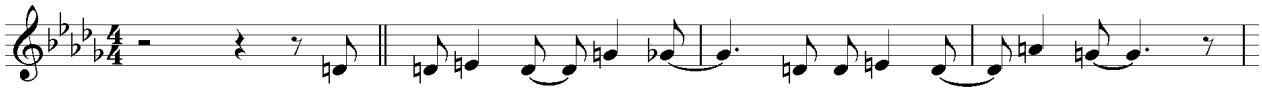


What the music for the 'Shower Scene' is all about, once we're beyond surface level issues like the 'screeching' sound textures, is intervals; lots and lots of intervals. As we have established elsewhere, the *gap* that separates two notes does not make a sound but it decides what harmony sounds like. The context of harmony is the gaps; the space between the notes. Without the context of intervals, notes are nothing but random harmonic energy. Our responses to harmony are all governed by something which itself doesn't make a sound. The Shower Scene transcription above (fig.25) has all the intervals overlaid; we can see and hear that essentially it's an enormous collection of maj7s and b9s. A bare maj7 (with none of the traditional context to fatten it out and contextualise it) is an odd interval. Repeatedly restated it become abstract in much the same way a slightly odd word might do if you literally repeated it without any conversational context. The flattened 9th (or a compound min 2nd) is the same. Replete with 3rd, 5th and 7th the flattened 9th sounds a little dated but dramatic. Contextualised only by a root, a flattened 9th will grate because there are no notes in between; just un-harmonized space. The most notable aspect of the *performance* is the fact that some of the instruments are playing at the extremities of their range.

The composer-writer and the performer-writer

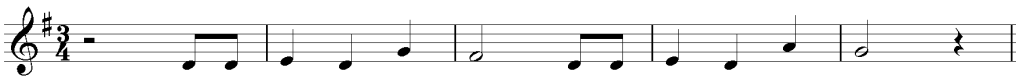
John Sloboda said in his wonderful book *Exploring the Musical Mind*, 'The writer [composer] communicates indirectly through a score which must be read, understood and performed. The composer-writer predominates in our musical culture'. He goes on to say 'Notation is therefore the medium, the language of its communication. It is not simply a set of instructions. It embodies aspects of the structure, or meaning'. If notation is presented or 'spelt' incorrectly (not 'wrong' but in a misleading or confusing way) 'the auditory effect would be correct but the performer would miss a sense of comprehension until they recognised the tune'. The following piece is notated in a completely misleading and inaccurate way but, nevertheless, if you played it, it would amount to the same thing 'notationally' as it does in its more accurate form. Try figuring out what the tune is.

Fig.26



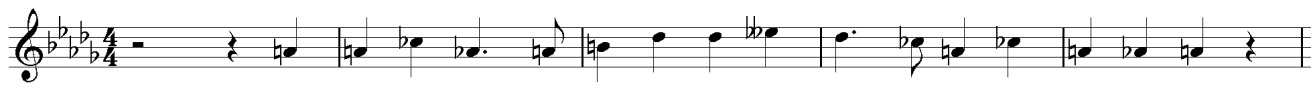
To write this piece 'properly' (below) is to convey to the performer the complete context. It shows the simplest way it can be notated. It looks more believable. The 'correct version' would be recognised instantly before anyone played it. The performer would already have a sense of 'knowing' what the music means.

Fig.27



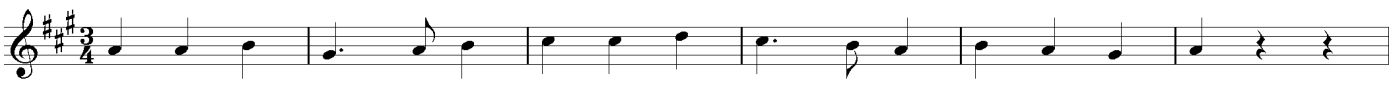
Even though the spelling in fig.26 is wildly inaccurate, it amounts to the same thing as the 'correct version'. But the piece does not appear to 'make sense' in the same way it would if it was a) written using the correct key signature, not just a load of accidentals, and b) written using the correct time signature which would imply a larger, broader sense of logic; as if the idea and the notation were in fact the same thing, which they should be. Try figuring out what the piece below is.

Fig.28



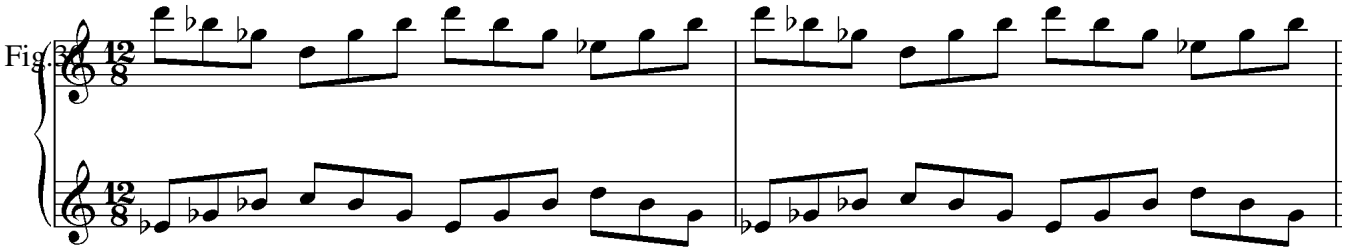
The correct version (below) would be easier to figure out; the phrasing makes sense, as will the performance.

Fig.29



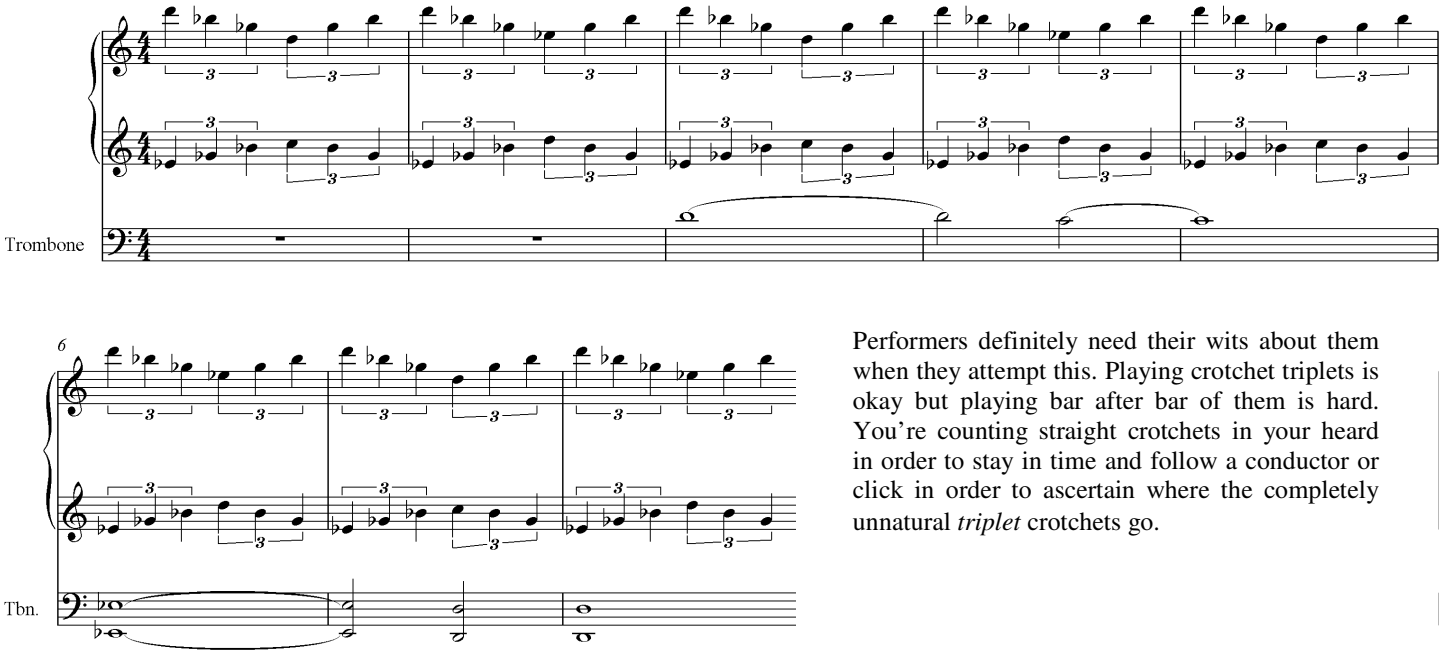
Any musician, who plays a brand new piece which they and everyone else hasn't heard or seen before, strives to make sense of it before they play it. It is for this reason that the piece has to possess a 'larger, broader sense of logic'. The guiding principle in musical notation is not that it looks appealing or pretty; it is that it *makes sense*. Notation defaults to the simplest way of articulating itself. I say all this because we now come to another small cue from one of Herrmann's finest scores – *Vertigo.* Take a look at what the intro to *Vertigo* 'sounds' like (below, fig.30). This transcription is almost a rhythmically 'phonic' version of the recording. If we asked a dozen music scholars to transcribe the opening two bars based on what they heard, this is what they would come up with.

Fig.30



In fact when we listen to the recording of the opening bars we *do* sense a feeling of urgency; of stress. Herrmann chose to subvert the notation to illicit a sense of agitation. 12/8 would have perhaps sent the wrong message to performers; it might have been too 'lilting' or too jovial.

Fig.31 *Audio – 'Prelude' from Vertigo*

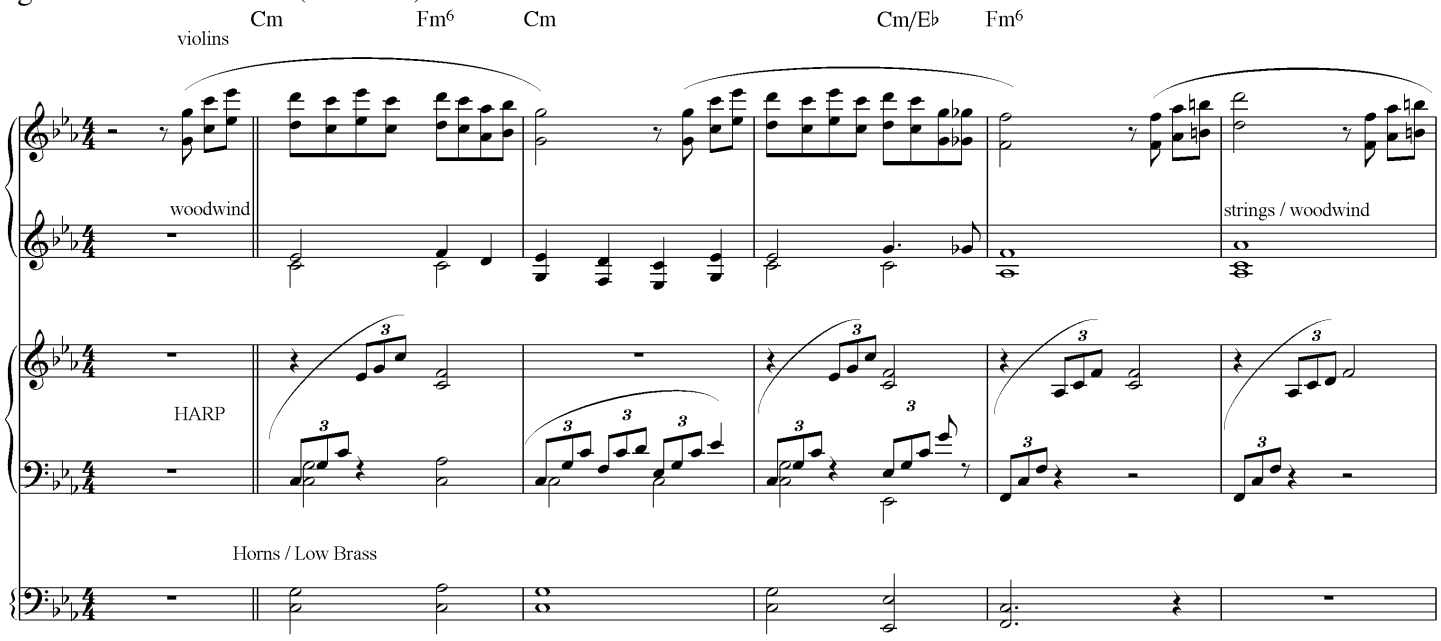


Performers definitely need their wits about them when they attempt this. Playing crotchet triplets is okay but playing bar after bar of them is hard. You're counting straight crotchets in your heard in order to stay in time and follow a conductor or click in order to ascertain where the completely unnatural *triplet* crotchets go.

Herrmann had the strings doing something completely alien. Only their first and fourth note of each bar would have 'stacked up' with the 'straight' crotchet pulse in their heads. Allegedly the string players initially couldn't see the point of what he'd done and thought Herrmann was simply trying to frighten them.

To a much lesser degree we can see how a similarly unsettling effect was present to listeners of the main theme from *The Godfather,* by Nino Rota.

Fig.32 **The Godfather** (Nino Rota)

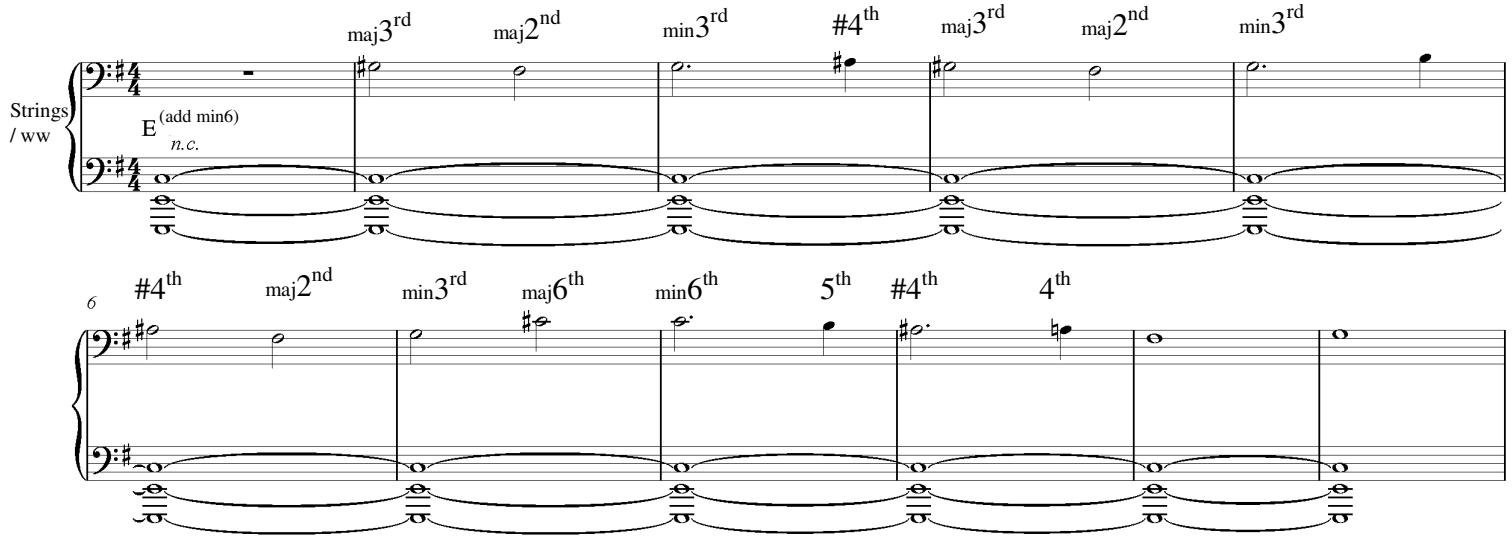


For years many people have commented on this piece; how it conjures up perfectly the locale, culture and narrative of the film. One aspect not addressed anywhere is the rhythmical unease caused by the juxtaposed quaver triplet harp accompaniment against straight quavers in the melody. The melody is strong, powerful and dramatic but there is a sense of unease. Examples of how our perceptions of intervals and harmony and our reliance on (and susceptibility towards) normality can be manipulated are displayed in the following few cues.

Zodiac (David Shire)

Zodiac is a film based on the true story of a serial killer in 1970s San Francisco who taunts police with his letters and cryptic messages. Detectives become obsessed with the case and their inability to solve it. Howard Shore is an inspired choice for this film. Like he did with *Seven* and *Panic Room*, he lends the film a real sense of aural and sonic darkness; of foreboding. The movie is long (165 minutes) and focuses on the lives and careers of the detectives and journalists who for years tried to crack the case. The music is one of the main components that make this film so engrossing, absorbing and disturbing to watch. Music can and does 'frame' how we rationalise a story. The music works brilliantly well in this movie; the story arc and the narrative are perfectly encased in a beautiful and mesmerizing aural sense foreboding.

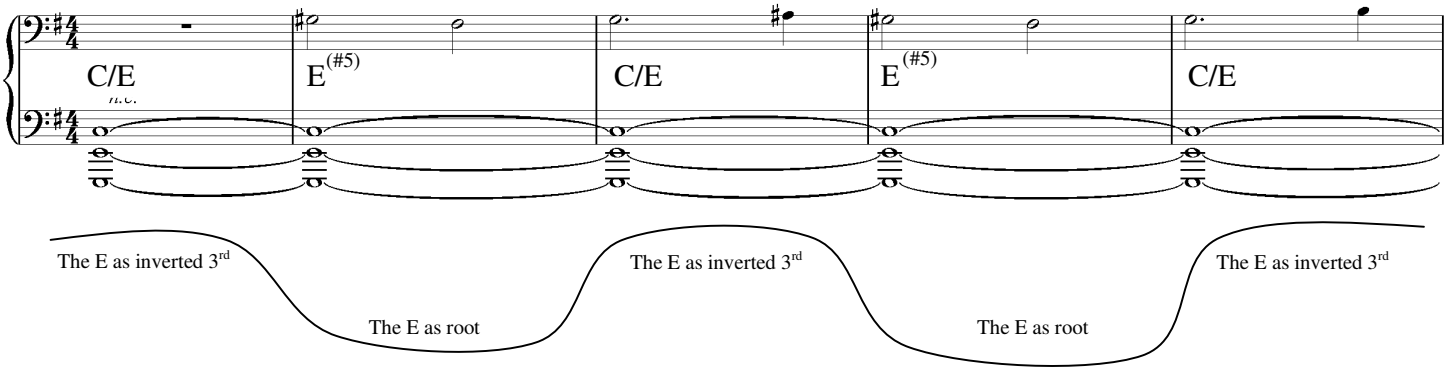
Fig.33 *Audio – 'Law and Disorder'*



Low octave E notes with a C (min6) run throughout the initial section of this cue, acting as an harmonic 'bed' of sound which the singular line on the top stave reacts with. Crucial here isn't just the way the top line intervals react to the octave E notes but also their relationship with the almost inaudible min6 (C). The biggest and most profound sense of oddness is when the very first G# melody note appears.

This is because the three notes which form the 'bed of sound' on the bottom stave (the two E notes and the C) have created the aural presumption of a C/E chord. All that's missing to complete this aural picture is the G note, but what we get instead is the G#. What this means is that, having heard the initial E bass as the inverted maj3rd of a C chord (bar one) we now hear the bottom E notes as roots of an E chord (bar two) because of the G# melody note and we hear the C as a sonically 'lumpy' low #5. The tense and anxious journey in this piece is created almost solely by the subtle and careful manipulation of our senses and what intervallic role we subconsciously presume notes are fulfilling. To subtly differing levels we are all affected by this. The piece keeps altering the way in which we rationalise and 'hear' the E bass notes; few listeners would be able to recognise, rationalise and much less interpret the significance of what they're hearing but this doesn't make analysis invalid; to more musical listeners this cue might sound as if it is going in and out of 'harmonic focus'. They would be right; essentially it is the manipulation of our senses through harmony that delivers these feelings. If we examine the first few bars of the cue again, this time from the perspective of the chord symbol we can see the intervallic movement of the E.

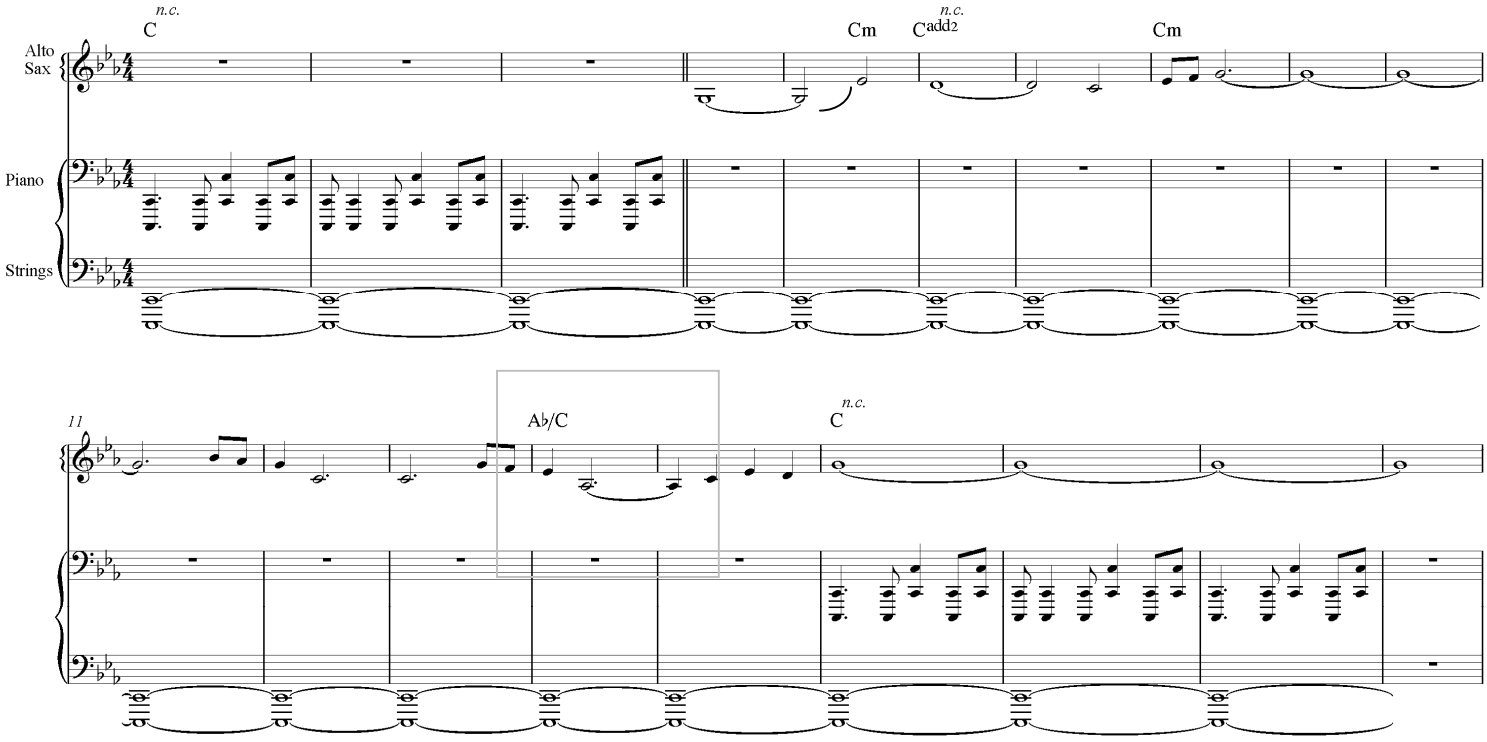
Fig.34



Deadly Pursuit (John Scott)

In *Deadly Pursuit* John Scott proves his great ability to craft distinct, memorable melodies. The score for the film is powerful throughout, and nowhere is this more evident than the opening theme. Scott's use of the standard symphony orchestra is augmented by an eclectic palate of synthesizers and drum machines popular in the 80s, when the film was made. It is amazing how many times John Scott actually states the main theme in the movie without making it sound similar or repetitive in any way. The theme is full of suspense, nervousness and excitement.

Fig.35 *Audio – 'Main Title' 00.27*



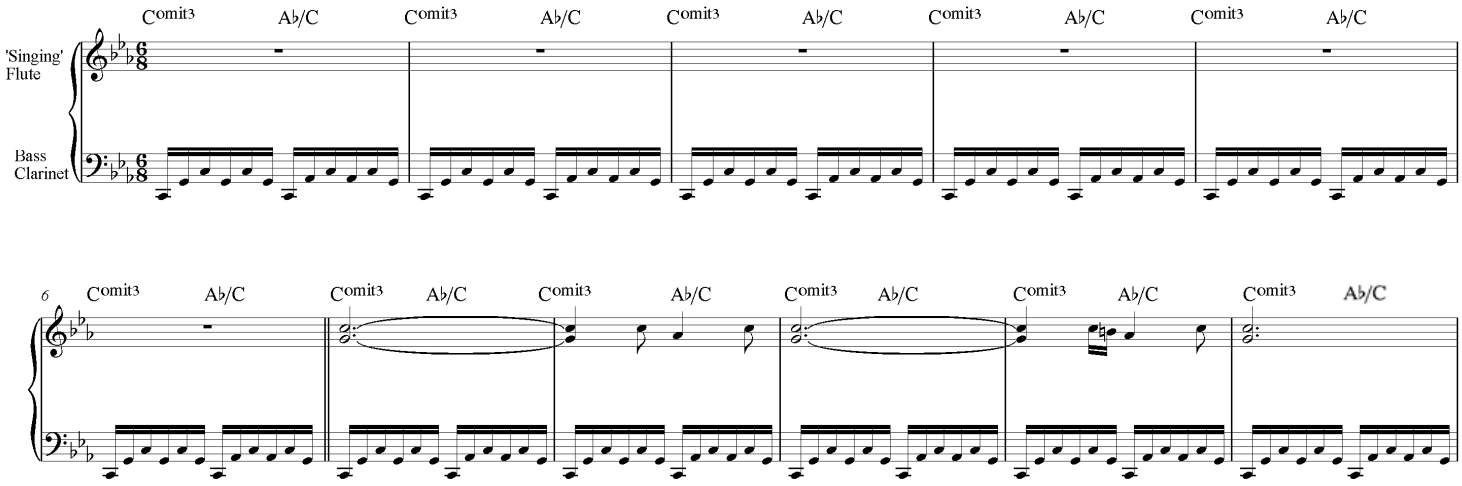
The alto sax slide-up to the Eb in bar five creates an immediate and strange sense of fear and tension, essentially due to distinct sound of the sax. Although many of the chords in this piece are incomplete, the initial min3rd interval stated by the alto sax (bar five) succeeds in suggesting a Cm flavour throughout. The next note is the maj2nd which in context of the merely implied minor chord, has a ghostly, ethereal quality. One of the sections which work well is when the chord moves to Ab/C (bar fourteen, highlighted). The C bass note remains intact but its intervallic context moves from root to maj3rd. This feeling of movement without actual physical note movement is something we've discussed at length elsewhere. This harmonic trick is part of why this piece works so well. Much of the harmony is suggested rather than absolute. Scott manages to convey the Cm feel well by stating the crucial Eb only twice, then creates the feel of the Ab chord simply with a minimal combination of the bass note and the melody line.

The Ghost (Alexandre Desplat)

Roman Polanski's film was released without a great deal of fuss, most probably down to America's anti-Polanski stance, or indeed the clearly anti-American stance of the story itself. There is more than a touch of Hitchcock in the film and the soundtrack, by Alexandre Desplat, has more than a whiff of the quirky style of Philip Glass. The music for Roman Polanski's films has always taken centre stage and Desplat's refreshing take on the narrative is exciting and lends the film real and distinct tension and darkness, thankfully freeing it from the formulaic and archetypal Hollywood gloss one might have expected.
A ghost-writer played by Ewan McGregor lands a contract to rewrite the memoirs of Adam Lang, the former UK Prime Minister. Lang dominated British politics for years and has now retired with his wife to the USA where he has written his memoirs. The book is in need of a drastic overall, which is where the ghost writer comes in. After finding out that his predecessor as ghost writer had been found dead in mysterious circumstances the ghost-writer gets unmistakable signs that there is a dark side to Adam Lang; the draft he is tasked to put into shape contains information which points toward the former British Prime Minister having been complicit in various war crimes. The PM is clearly modeled on Tony Blair – perhaps another reason why the film's release wasn't front-page news.

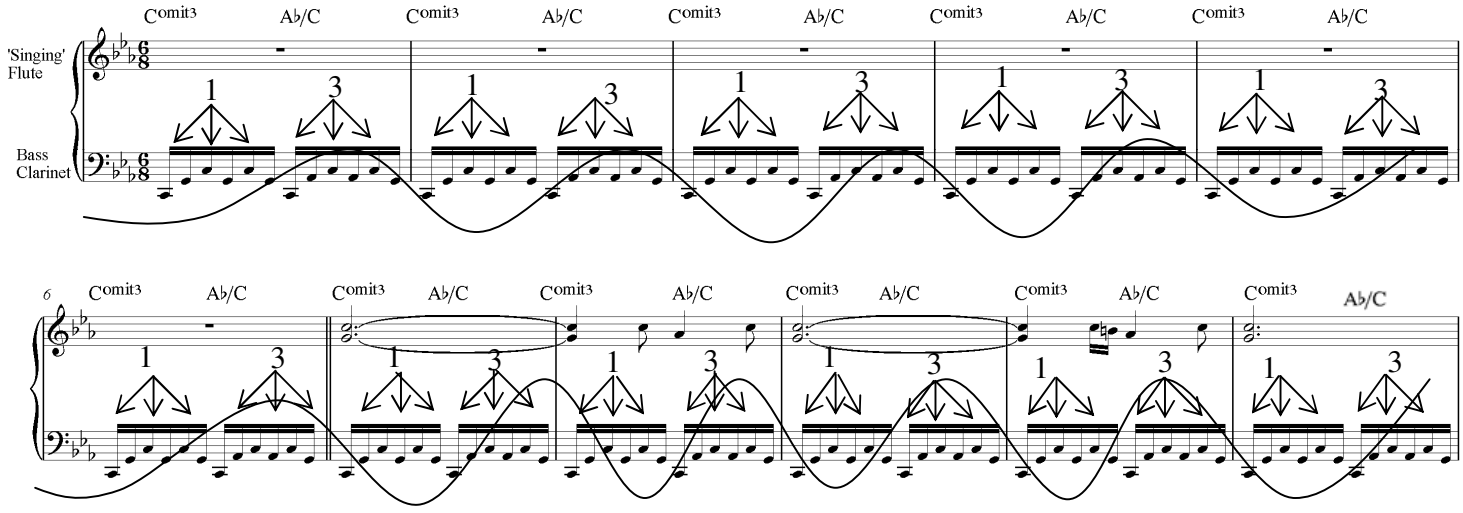
What sets the score apart from the rest is its quirky beginning with an instrument that rarely gets to be heard so vividly: the bass clarinet. Its staccato ostinato works well in articulating the strangeness of the story, as does the equally strange sounding melody, played on 'singing flutes'.

Fig.36 *Audio – 'The Ghost Writer' Film 00.00.05*



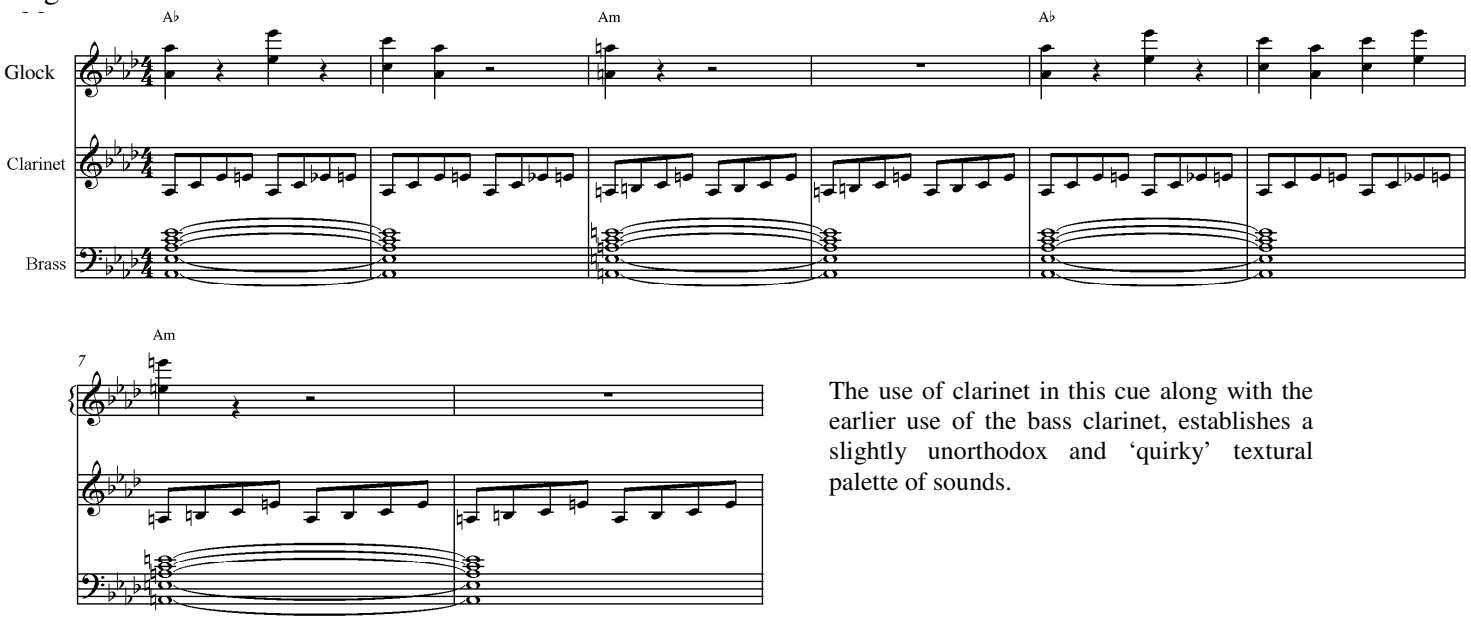
One might think a constantly repetitive line, even on an unexpected instrument, would eventually become tiresome and predictable. This potential is skillfully mitigated by the change in intervallic context of the low C note of each arpegiated line. As shown by the highlighted sections below (fig.37) by changing the G note to the Ab in the arpegiated line the intervallic reality of the bass clarinet C notes evolve from root to maj3rd in each bar. This maintains the freshness of the line. The change in intervallic context is not just a theoretical issue; it creates an invisible and barely perceptible contour, lifting the emphasized C note from root to maj3rd

Fig.37 *The Ghost Writer main theme, with intervallic context/contour added.*



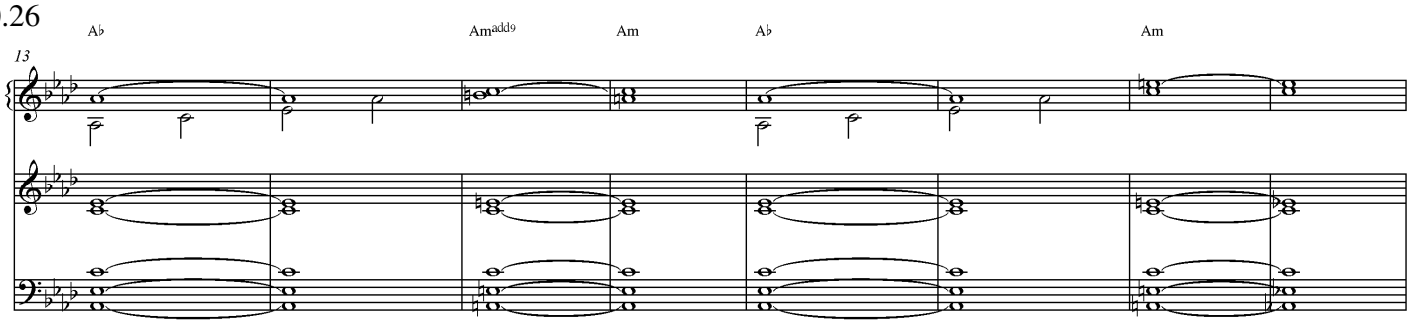
The next section of 'Ghost' comes nearly three minutes into the picture where Desplat establishes what might be described as one of the main textural and harmonic identities of the film's music.

Fig.38 *Audio – 'Rinehart Publishing' - Film 00.02.48*



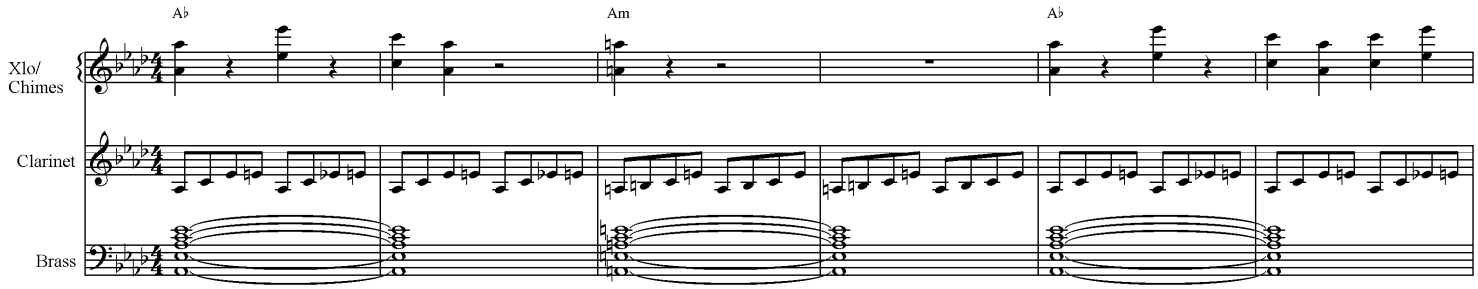
The use of clarinet in this cue along with the earlier use of the bass clarinet, establishes a slightly unorthodox and 'quirky' textural palette of sounds.

00.26



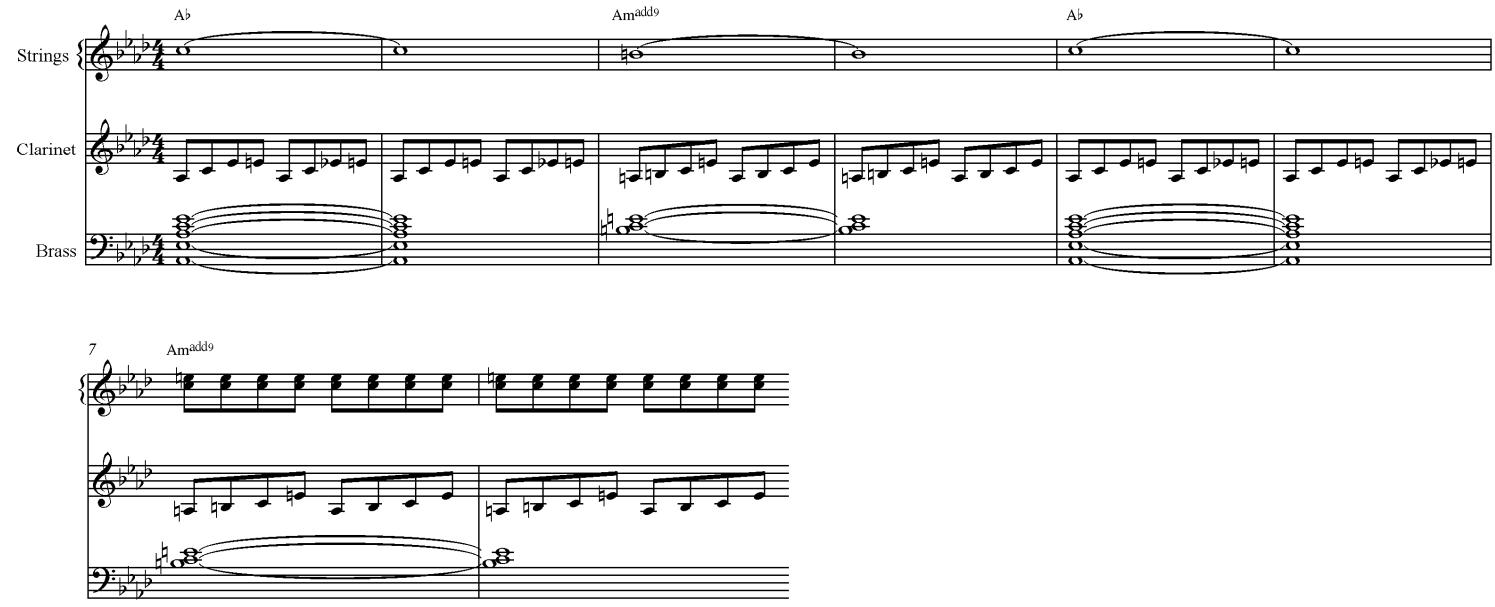
Perhaps inevitably the success of the music for this film and in particular in fig.38, the harmonies generated are instrumental in forcing a quirky, slightly comedic air onto the scene. In the scene the ghost writer is visiting the headquarters of a swish London publishing house where he will have an interview with his agent and various publishing company executives. As he walks across the road into the offices, the cue begins. The music is mildly suggestive of elements of wonderment and excitement together with a kind of cheeky tension. A simple four-bar extract, below, fig 39, shows us some of the emotional signifiers. For starters we have the well-known filmic chord sequence whereby a major chord diverts to a minor chord a semitone below. This offers the same note (sound) functioning as maj 3rd and then min 3rd. This (the feeling that a note is not physically moving but is instead altering what it 'means' as an interval) is something we've been over numerous times in other films, so I will not dwell on it except to say that it is one the great emotional film music devices; the feeling of movement lies within our own interpretation of the chord as a whole.

Fig.39



The manouvre between Ab and Am is also made smoother by the #5 (E note in the melody over the Ab chords). This links beautifully to the Am chord when the E appears again as the 5th. The next excerpt is from the soundtrack album, entitled 'Prints'. Again the #5 and the 'add9' are both present. The add9 is italicized by some close mid-low trombone writing which contains the clash between the B and C.

Fig.40 *Audio – 'Prints*



Horizontal intervals

This book, along with other volumes, talks a lot about how the intricacies of harmony can communicate what we interpret as a sense of meaning. In order to understand it on a deeper level it's good to understand that chords do not merely transmit in the heat of the moment, as it were. Because a particular chord is played in bar 17 does not limit its effect to bar 17. Whenever harmonies are played, they are initially felt the in context of 'the moment'. But the after-effects of the chord can reappear like ripples in a pond, radiating outwards and impacting on the rest of the piece. Music is rarely about 'the moment' – usually it is about the overall effect.

Music is listened to cumulatively; collectively. We hear chords at the time but we reference their content throughout the piece.

Thus as well as vertical intervals (the normal kind, where we rationalise notes as intervals played simultaneously as a chord, there are what we might call 'horizontal intervals' – notes we can pick out of one chord and look at in reference to specific notes from other chords.

At first glance this may seem a little wide of the mark and a little Alice in Wonderland. After all you could theoretically take any note from any chord and put it next to another note from another chord to create many different theoretical intervals and chords. Although we listen cumulatively we do not possess the wherewithal to interpret singular notes of a chord in relation to how it might sound put alongside another note, somewhere else.

But there are some occasions where we can feel an interval we don't see if we're simply looking at harmony vertically. In the last chapter we discussed E.T. At one point we deconstructed a piece called 'Over the Moon'. We established that there was a "curious link between the #4 of the Db chord (the note G, bar two, fig.39) and the chord which follows (C – bar three). We also said "Looking purely at their own harmonic relationship we see a perfect 5th between them." Although, as I said in the last chapter, the 5th doesn't really exist because it is not a simultaneous event and therefore not an interval in the conventional sense, the link between them is much more than purely theoretical; the last chapter again, "there is a bond, a kind of horizontal harmonic event which helps the two chords gel…..this is a timely reminder that intervallic context is not only to be heard vertically, in context of a note's relationship with the chord which accompanies it *at that moment.* Intervallic context can also be heard and *felt* horizontally between different melody notes or notes in a chord, irrespective of which chord they are part of.

Fig.41

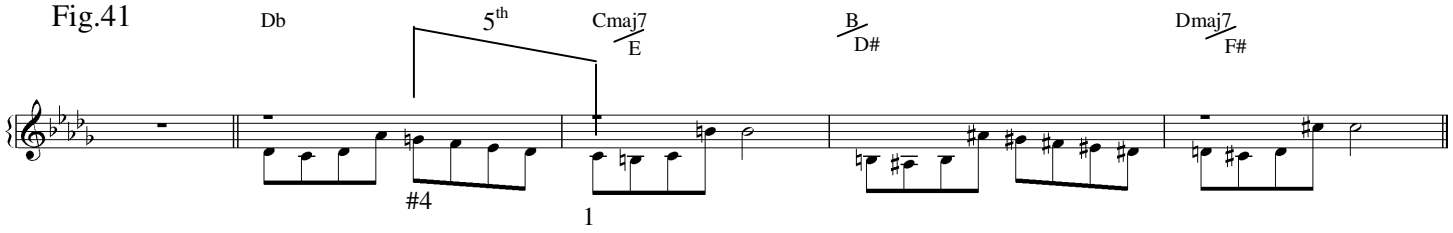
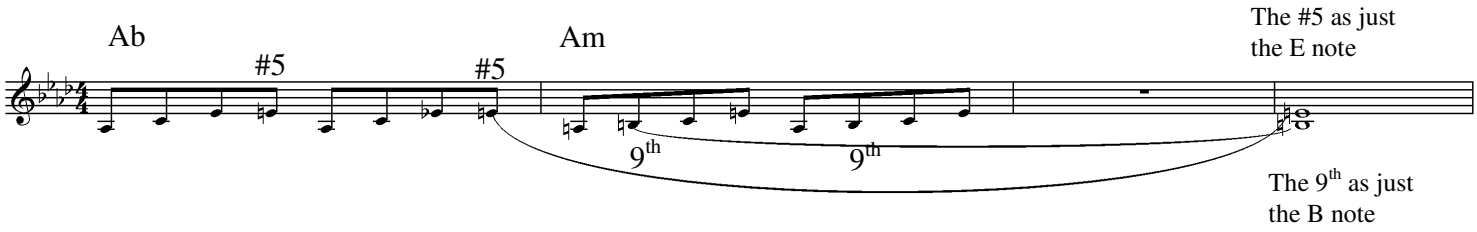


Fig.42 Returning to the cue in fig.38 and 39, below is an abbreviated section showing an exaggerated version of the chord change.

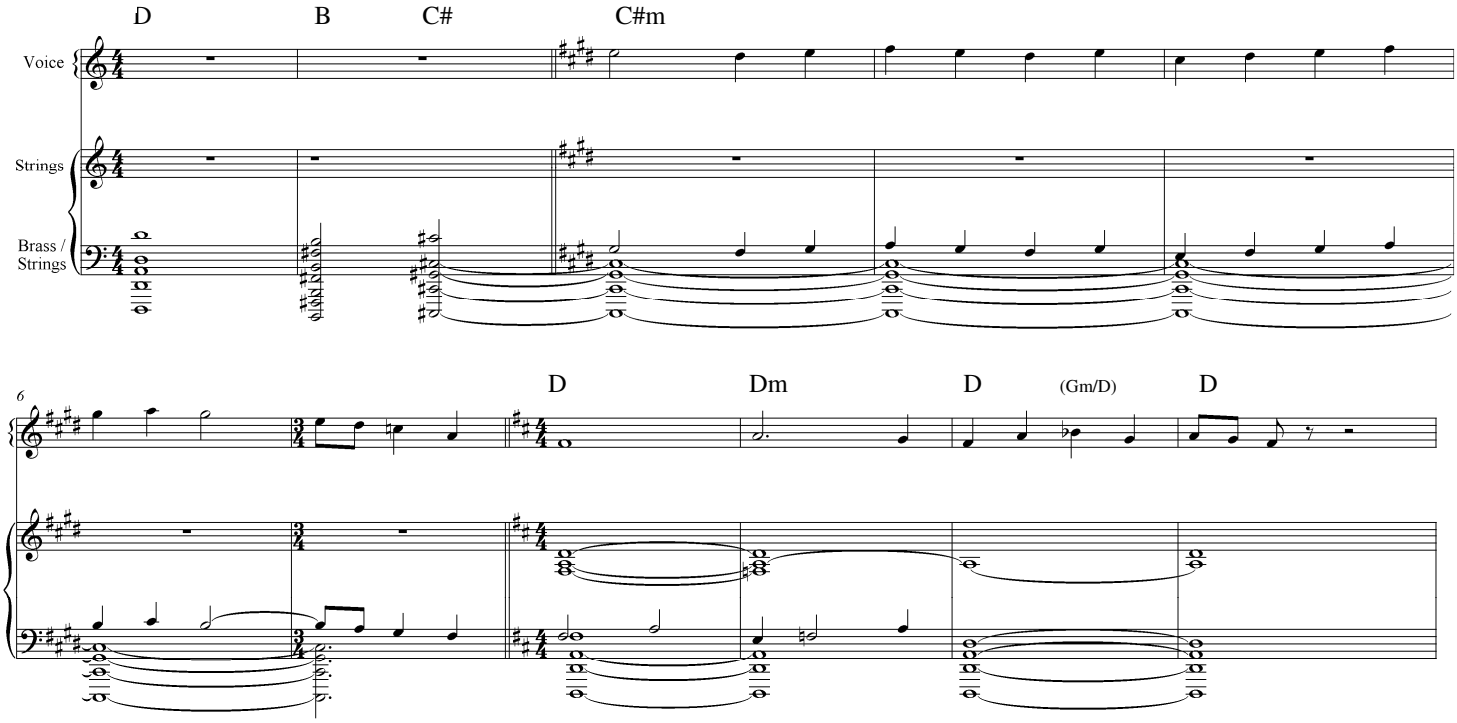


These 'horizontal intervals' tend to be most useful when together they represent a bare interval such as a 4th or 5th. Although we don't 'hear' this interval (how could be since it is formed from two notes, each taken from two separate chords) we are the beneficiaries of the slightly odd 'squareness' exhibited by the 4th which separates each of the notes (the B and E). The E.T example is similar being between a G note (the #4 melody note over a Db chord) and the subsequent C note (the root of the C chord in the next bar).

Avatar (James Horner)

Much has been written about *Avatar* and its successful score by legendary film score composer James Horner. In context of this chapter what we focus on is firstly the warming effect of the melody and supporting harmonies from bar three-seven and secondly the unsettling and slightly eerie harmonies toward the end of the transcription.

Fig.43 *Movie – 00.03.10 Audio – 'You don't dream in Cryo' 02.29*



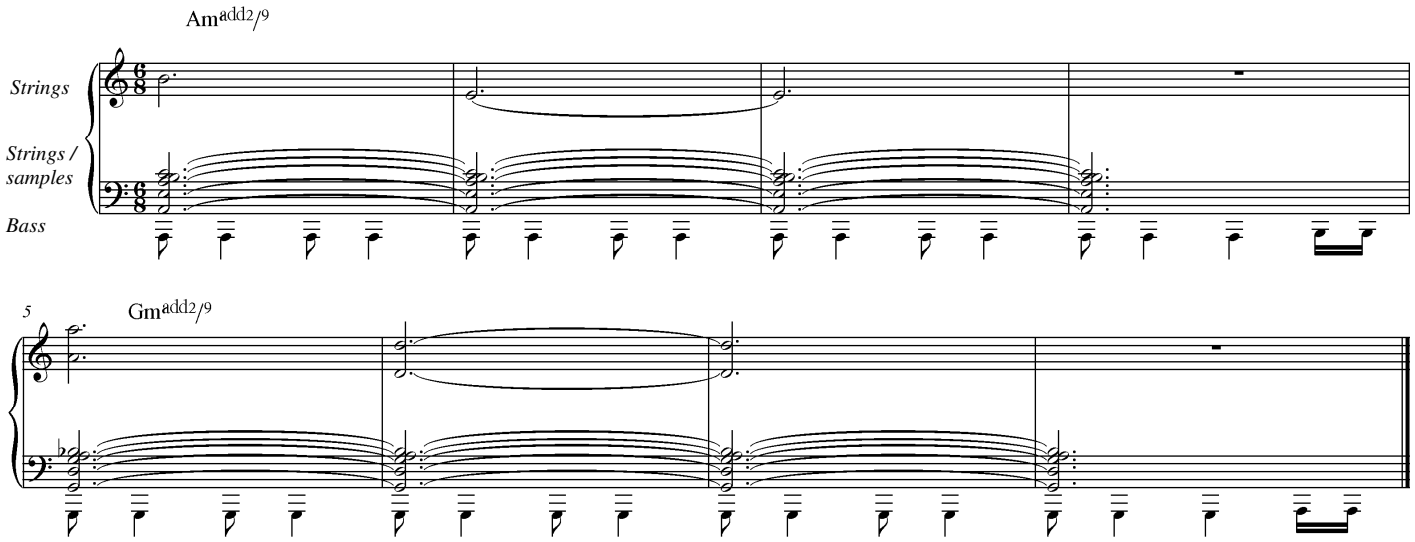
The section starts with some powerful and dramatic stark harmonies; the lack of any 3rd intervals (and the low voicings of the roots and fifths) in the first three chords offer a stark and weighty, authoritative tone. There is some effective harmonic interplay in bars three-seven between the voice and cellos underneath, typical of many of the beautiful and effortless melodic lines which grace so many of Horner's scores. The top line begins on the E with the counterpoint starting on the G#. The uniformity, consistency and slightly mesmerising similarities of so many compound m6th intervals create real emotion and warmth. As is often the case, we tend to focus on instrumentation and individual melodic lines at the expense of overlooking the power of the interval. The 6th interval (major or minor) is a particularly warm one and is regularly used in melodic lines to evoke a sense of romance or passion. There are a great many iconic melodies which have benefited greatly from the interval; *Love Story* and *My Way* are perhaps two of the more obvious ones. It has been used in hundreds of film scores, many of which are covered in vol.1 and 2 of this series. What makes this section work particularly well is the enormous space between the voice and the cello counterpoint an octave and a half lower. Also the interplay between the D, Dm and D chords, in the final four bars of the transcription adds a sense of beautifully skewed harmony.

The sense of 'release' from the Dm to the D is palpable when the melody line states the maj3rd (F#) on bar ten. The extra tension created by the inferred Gm/D chord (via the Bb melody note) works well too.

Inception (Hans Zimmer)

Again, much has been said about the soundtrack for *Inception*, much of it focusing on the textures inherent in the sounds created by a combination of 'real' instrumentation and sample technology. Zimmer's attention to detail in terms of textures and instrumentation is evident in all his scores, particularly this one. But the context of our analysis is down to the control and use of harmony. The skewed and slightly dreamy sense of harmony and rhythm Zimmer creates in the track 'We Built Our World' is extremely effective.

Fig.44 *Audio – 'We Built Our World (00.23)*



The real success story, here, as ever, is Zimmer's understanding of how to subvert our expectations and offer small priceless nuggets of harmonic tension to create colour, depth and intrigue. This section begins with a typical Zimmer cluster chord, sandwiching the 1st (A), 2nd (B) and min3rd (C) to create a feeling of densely packed harmony. The melody line italicizes the 9th by virtue of the B melody line. The section where the piece achieves a graceful and effortless sense of skewed harmony is in the harmonic and rhythmic surprise of the bass semiquavers at the end of each four bar phrase. The lilting bass line which precedes the semiquaver is very low and dense in the mix; the volume raises *just* before the semiquavers appear. Even then it sounds almost as if the semiquavers are 'out of the blue'. Rhythmically they sound a little odd but this is compounded by the interval of the note, the maj2nd (B) of the Am chord, coming literally just prior to a move to Gm (with which it would have clashed, were the two together) presenting us with something we definitely wouldn't normally hear.

If we were trying to imagine the one note we *wouldn't* choose to italicise when moving from an Am to Gm, arguably it might be the B, because of the 'memory' of the B note clashing with the new chord, particularly the Bb min3rd. The low, soothing and gentle texture of the note and the brevity of its appearance mean it creates excellent and subtle tension.

Chapter 8

THE INTRICACY, SOPHISTICATION AND COMPLEXITY OF FILM MUSIC

In this chapter we analyse and examine music which connects with the film via delicate brush strokes of harmony, instrumentation and texture and which interacts with film drama on a deep level. In some cases we examine introspective and contemplative music which succeeds in exposing a deeper meaning in the film and provoking a deeper reaction in the listener / viewer. This doesn't always mean the music is slow or light-touch or that it is always complex; just that its communicative power is sometimes subtle and indirect; understated, refined and/or cumulative.

Music analysed includes:

Gattaca (Michael Nyman) *Sneakers* (James Horner) *Pacific Heights* (Hans Zimmer)
Cast Away (Alan Silvestri) *Contact* (Alan Silvestri) *End of the Affair* (Michael Nyman) *Local Hero* (Mark Knoplfer) *The King's Speech* (Alexandre Desplat) *Revolutionary Road* (Thomas Newman) *Le Grand Bleu* (Eric Serra) *Touching the Void* (Alex Heffes) *Love Actually* (Craig Armstrong) *The Beach* (Moby) *Rogue* (Francis Tetaz) *Chariots of Fire* (Vangelis) *The Truman Show* (Philip Glass/Burkhard Dalowitz) *United 93* (John Powell) *Tron Legacy* (Guy-Manuel de Homem-Christo & Thomas Bangalter - aka Daft Punk) *JFK* (John Williams) *Superman* (John Williams) *Raiders of the Lost Ark* (John Williams) *Star Wars* (John Williams)

Gattaca *(Michael Nyman)*

Gattaca, written and directed by Andrew Nichol, is a film which draws on concerns over reproductive technology and the possible consequences for society. It addresses deep and controversial issues which were particularly present when the film was made; namely genetics, cloning and issues which involve the supposed abuse of medical science which, in many people's eyes sees doctors 'playing God'. Niccol explores themes of genetic modification and its possible future use in 'human engineering' and 'social cleansing'.The film presents a dark, difficult and deeply unpleasant 'biopunk' vision of a future society driven by eugenics, where potential children are selected through genetic diagnosis to ensure they possess the best hereditary traits of their parents and therefore the best chances in life. A genetic database uses biometrics to classify those created as 'valids' (people whose genetic strength is predetermined) while those conceived by 'traditional means' (naturally) are derisively known as 'in-valids'. The name *Gattaca* is the name of the fictional space agency shown in the film. The film itself, similar to its music, is quite minimal; the film is dominated by a few characters and a small number of symbolic but bare and extremely cold, functional locations.

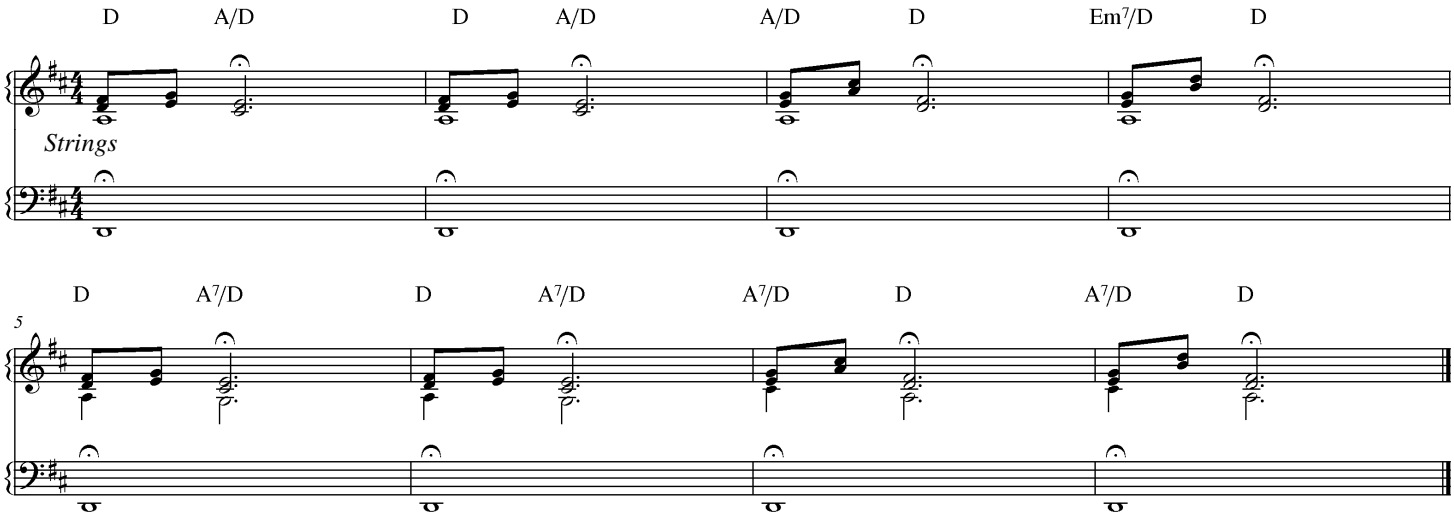
This provides an overall atmosphere of modernism and minimalism but a comparative lack of geographic or time placement. Scenes and images throughout the film continually link to the theme of genetics; the circular staircase in Jerome Morrow's apartment evokes the shape of the 'double helix', underpinning the film's genetic theme. The colour used in much of the film is visually cold (green and blue-grey) - a deliberate attempt to reflect an intensely sterile environment, lacking in humanity. The fiction which interprets the story revolves around Vincent Freeman, who is conceived and born without the aid of technology (an 'in-valid') and who has a high probability of developing mental disorders, is myopic, has a heart defect, and a projected life expectancy of 30 years. Vincent wants to be an astronaut but due to his genetic status is doomed to a life of menial jobs. The only way he can achieve his dream of becoming an astronaut is to become a 'borrowed ladder' – the term given for a person who impersonates someone with a superior genetic profile.

As I said earlier the film possesses a strange, eerie and in some ways endearing lack of distinct time and location; although people are travelling to the stars – which suggests a time in the future – there are many visual and narrative aspects which allude to past times. The music is not typical sci-fi music by any stretch. It is romantic, poignant, minimalist and extraordinarily emotional throughout. The music functions as an emotional commentary on the story; the humanity, the tragedy, discrimination and prejudice. It references the romantic protagonist who strives to overcome the odds at all costs.

One track (entitled 'In God's Hands') comes several times in the movie. The piece communicates well, but in order to find out why, we have to examine the concept of 'doing less' in order to 'say more'. So much of the music we listen to is filled to the brim with information. Music is primarily designed to entertain and frequently chord changes can be hurried and contrived, lest listeners become bored or 'zone-out'. The vast majority of music is tailor-made for a society which doesn't have time to sit around and wait to be emotionally engaged. Most music is jam-packed with information sculptured to illicit an immediate response. In a very real sense there is arguably often too much music *in* music. When music is 'less busy' we tend to focus more than we normally do on the architecture, the movement; things we might otherwise have missed or taken for granted. The commonalities and normalities take on added context when not 'cluttered' by the excesses of overwriting, over-orchestrating or the standard Hollywood gloss.

But ironically physical 'simplicity' is frequently anything but simple and sometimes physical 'minimalism' is anything but minimal, because hidden or dormant characteristics can achieve new, disproportionate prominence. Also when experiencing minimal-sounding music as a listener there is a tendency sometimes to become more engaged, simply because the vacuum created by less information can be filled by the listener's interpretation. Even 'ordinary' chord sequences can sometimes achieve a heightened or more vivid sense of meaning when they pause and allow us to reflect and contemplate. As an example a chord V over a tonic bass (A/D for example) is an incredibly beautiful and communicative chord but can be particularly effective when we are allowed to enjoy it resonate. One of the reasons some chords evoke a strong reaction is down to the fact that they are lightly suggestive of two chords, not one. Obviously if we *fully* state two chords simultaneously then in most cases we have a kind of abstract harmonic flavour with no real defined identity; but with chords which *subtly* allude to two different suggestions the effect can be softer. The key chords in 'In God's Hands' are the A/D and the A7/D. These are the chords that *settle* – the chords that *lay*. These represent a kind of harmonic 'centre of gravity'.

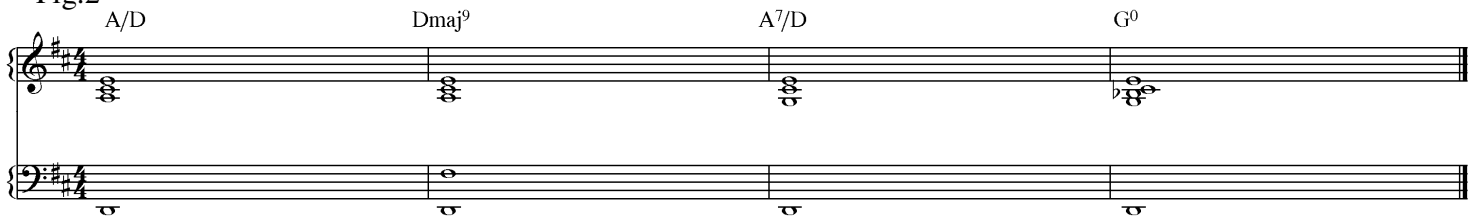
Fig.1 *Audio - In God's Hands Movie - 00.08.35 and 00.12.10*



The chord of A/D (bar one, below, fig.2) is a classic communicative chord; the reason is that it subtly implies two chords at once; the D and the A.

The simple addition of one note of F# (bar 2, bottom stave) turns the whole chord into a Dmaj9. In some respects therefore we hear the A/D as a 'nearly' chord; an 'almost' chord. We use our aural skills to search for the meaning. This creates the involvement and excitement which makes the harmonic experience vivid and enjoyable.

Fig.2



As alluded to in the chapter *Music Theory in Action* (in volume 1) although chord symbols can only be *interpreted* by those who understand music theory, they succeed in giving a name and a description to the precise way in which simultaneous groups of notes are communicated to and rationalised by *everyone*, not just those who 'understand'. Everybody understands chords to do an extent, it's just that most people don't *realise* they do. Everybody hears chords, not just people who understand them. Everyone is a potential beneficiary of the effect of a how a certain, specific chord is constructed, not just those who read.
I say all this because to understand chords and harmony is not just to understand and appreciate what music *looks* like; it is to understand *why* music sounds the way it does. To give a name to a type of chord goes way beyond the mere act of theoretical classification; it is almost the same as giving a name to describe the way something *feels*. Knowing chords isn't just about being able to communicate ideas to others or offer a theoretical description or a name; it's a means of identifying, categorizing and classifying emotion and expression in music.

To describe and interpret is to understand and to know; when we see a number, one way to rationalise it is as the sum total of *other* numbers. Although we don't generally go through life rationalizing the number 7 by thinking that it contains 3 + 4, or a 5 + 2, this is precisely what it is. I say this because with numbers, as in music, we tend to recognise the conclusion, not the possibilities or connotations. We see the outcome, not the journey. In a chord we hear the conclusion; we tend not to focus on the constituent parts, but of course these are what give a chord its unique characteristics. In the same way that one changed number in a calculation completely and irreversibly alters the outcome, so a one-note change in a chord can alter not just the way that note sounds but also the way the rest of the notes function in relation and what they all mean collectively. The A7/D (bar three, fig.2) is curious because we hear it as an A7/D even though there is no A note in it. The characteristics of an A chord (the 'A-ness') is implied, inferred and is a result of the influence of the previous chords we hear in the sequence; although we hear music sequentially and can usually only concentrate on 'now' the effect music has on us is rarely simply the product of 'now' – it is the result of a composite experience, a combination based on what we've heard thus far and what we're hearing 'now'.

Because the A7/D lacks the A, the *other* notes become more important; they become the context of how we hear it, and in this respect the voicing could almost function as a Gdim/D (voiced in bar four).

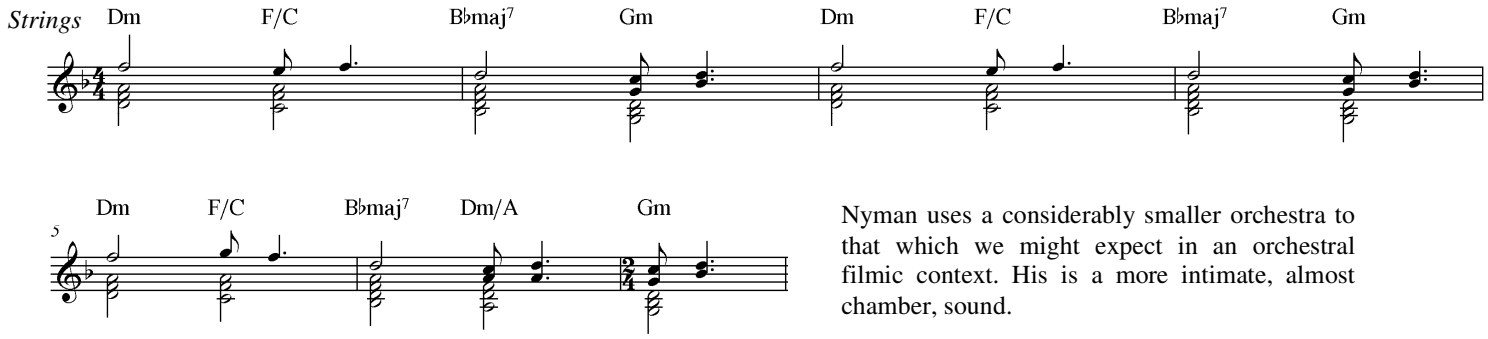
The context of Gattaca

In film we judge the music in terms of how it communicates with the film; how well it distils and contextualizes the narrative, the story and the pictures. Dialogue is extremely important in *Gattaca* where key issues of interest are explored in set-piece 'monologues' narrated 'off-screen' by the character of Vincent Freeman, aka Jerome Morrow. Jerome is the person Vincent impersonates to realise his dreams and ambitions. The first example of the power of narration is at 00.08.35 when Freeman quietly describes how 'Jerome Morrow' came to be working in the space program, only to state eventually "there is nothing remarkable about the progress of Jerome Morrow…except that *I am not* Jerome Morrow". Nyman's piece 'In God's Hands' then begins softly, before Freeman explains how he came to be an 'in-valid' – how his parents conceived him naturally (on the 'Detroit Riviera').

This is a crucial point: the film and its narrative almost seem to be embedded in the music and vice versa because the music is delivered with the monologue; the film offers up the perfect place to put the cue 'In God's Hands' and this potential synchronicity between music and picture is taken advantage of. Film music historians talk a lot about how music affects films but perhaps less about how film helps people interpret music. Although 'In God's Hands' functions well as stand-alone music, like most film music it fairs better when seen and heard in its original context; this is because the film is the ultimate arbiter of its context. Because music and film are seen and heard together, in every sense the picture normally forms part of the music and vice versa. In context of our understanding and enjoyment of film music, film itself almost exists *as* music, like a permanent aural texture which the composer navigates around with *actual* music. A scene in which Vincent's father happily and excitedly draws a line on a post showing how tall Vincent's brother Anton has grown is particularly interesting in this respect (00.12.10). To Vincent this is further proof of his rejection by his father in favour of his 'valid' brother. Again Vincent narrates as the scene is played: "This is how my brother Anton came into this world; a brother my father thought worthy of his name". 'In God's Name' comes again; thus the music cue essentially works with a combination not of picture and dialogue, but picture and *off-screen* dialogue, i.e. narration, which functions as a melody line wrapped around Nyman's music. These are examples of how movies use dialogue in different ways to perform a different narrative functions and how music can support this.

At 00.16.04 a scene takes place in which Vincent and his 'valid' brother participate in a swimming race in the sea – a race they have done before and which Vincent's brother has always won. As the two begin to swim, Vincent narrates "it was the last time we swam together", continuing to describe how a turning point was achieved, in that he, Vincent, against all odds, won the race. At this point Nyman's piece 'The One Moment', another delicate and suggestive piece, comes in.

Fig.3 *Audio – 'The One Moment' Movie - 00.16.04*



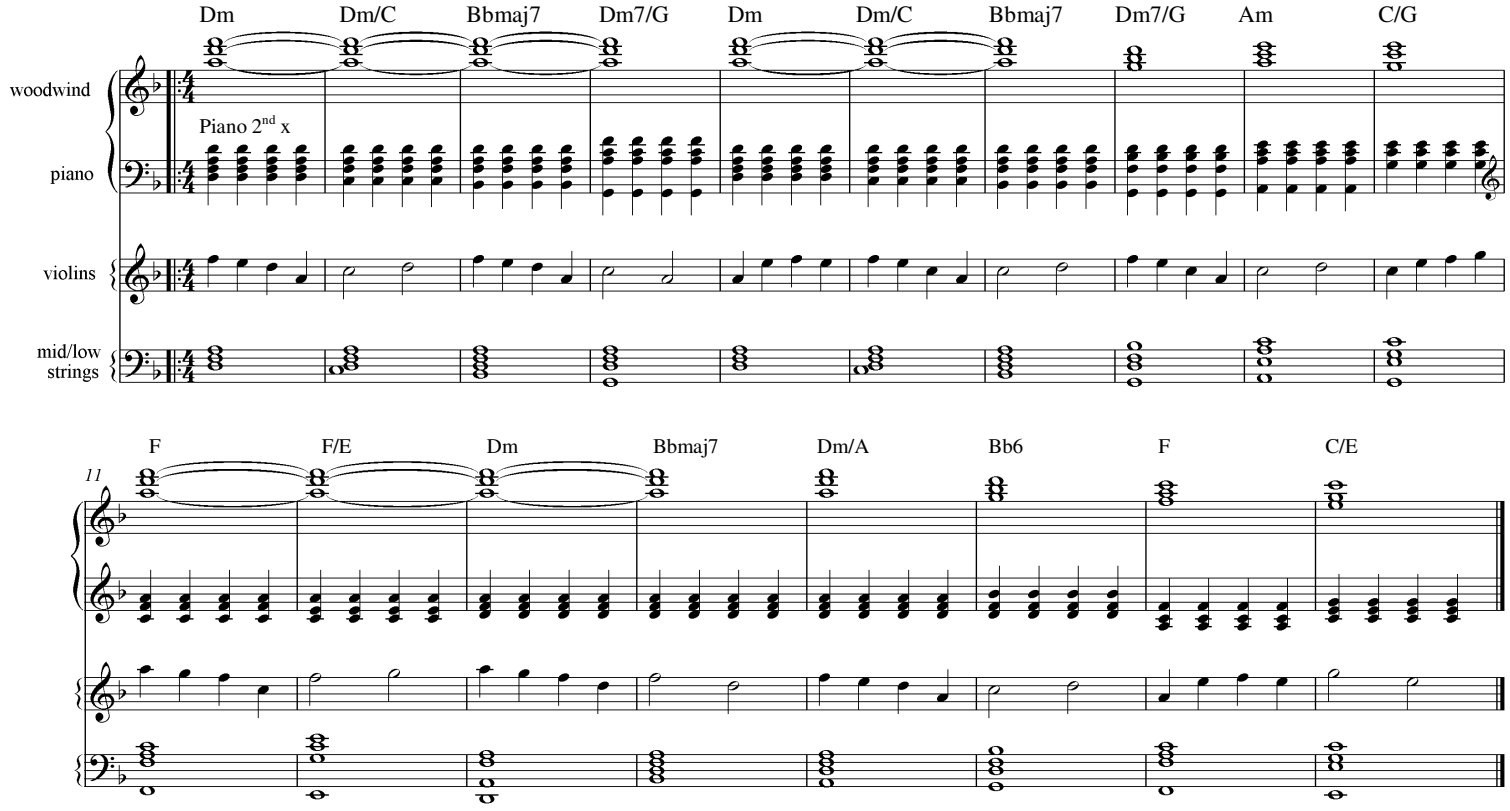
Nyman uses a considerably smaller orchestra to that which we might expect in an orchestral filmic context. His is a more intimate, almost chamber, sound.

One of the successes of this cue is its simplicity and the intimacy of the orchestration. Also prominent is Nyman's archetypal minimalism; his style of repetitive, beautifully plodding phrases. The effectiveness of these phrases lay precisely in how the repetition alters our perception of the piece, creating a kind of mesmeric monotony. What Nyman understands more than most and exploits in his music is the relationship between music and the listener. Nyman writes for the listener.

When music achieves 'escape velocity' from the stranglehold of formula - from archetypal lavish Hollywood filmic orchestration and production - slow, plodding, cumbersome minimalist writing can be much more effective. I say this because a larger and more lavish orchestration of 'The One Moment' might destroy its emotional impact. As with much film music, the piece is just as much a product of its orchestration as it is of composition. Vincent's humiliation of his brother in the swimming race which ended with Vincent not only winning but having to rescue his brother, forces him to leave the family home (movie, 00.18.00). As he leaves, Nyman's cue 'The Departure' comes in. Again Vincent narrates this part of the story, explaining how he moved between different menial jobs. Vincent narrates: "I must have cleaned half the toilets in the state.

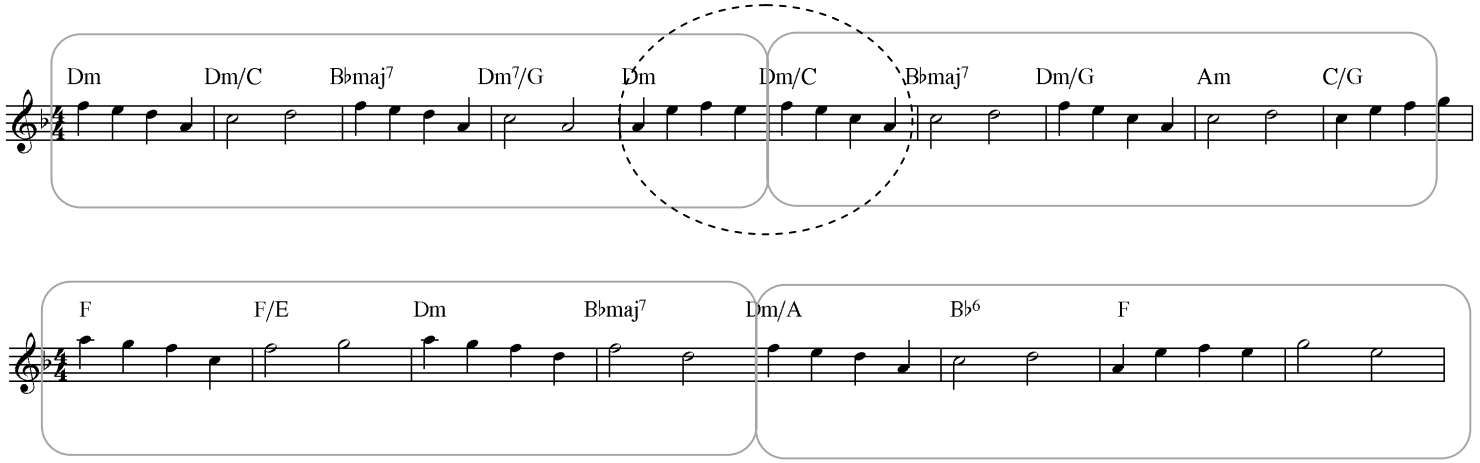
I belonged to a new underclass, no longer determined by social status or the colour of your skin. No; we now have discrimination down to a science". This simple but profound statement is all the more poignant because of Nyman's effortlessly mesmerizing music, which lends the entire scene an innate sense of sadness; of personal tragedy. The same piece is used toward the end of the film when Vincent has achieved his ambition and is about to 'depart' and board a spacecraft, thus tying these two sections of the film together musically, aesthetically, artistically and emotionally.

Fig.4 *Audio – 'The Departure' Movie – 00.18.00 and 01.35.29*



One of the great triumphs of some of Nyman's minimal writing is that the normal hierarchical relationship between melody and harmony is replaced with a more open model where both are equal. The 'monotony' of the 'melody line' draws out the chord changes underneath. Thus to an extent the two roles are reversed. Another important aspect of Nyman's approach is the way he skews the concept of structure, phrasing and architecture; the melody has a repetitive mesmeric quality which is obviously principally due to the fact that it *is* repetitive, but on closer scrutiny (below, see the isolated melodic line and chord symbols) we see that the first of the four phrases is a five-bar sequence.

Fig.5



When we initially hear the whole seventeen-bar sequence we presume the first phrase ends on bar four and the second phrase starts on bar five. By 'presume' I don't mean a surface level, conscious observation; more an instinctive involuntary reflection that we're probably not even aware of. We *presume* the structure is meant to unfold in neat, four-bar sections but essentially we're lead down the aural equivalent of a blind alley. The two successive bars of crotchets on bar five and six are possibly the bits that confuse and disorientate because they represent a mini-phrase on their own. This is part of how Nyman works; how he draws us in. This is why this piece is mesmerizing rather than boring, hypnotic rather than tedious and absorbing rather than lackluster. Much of *Gattaca* is filmed using the horizontal angle (eye-level) which succeeds in creating empathy for the characters and italicises Nyman's romantically inclined minimal music, helping to foster the sense of humanity in an otherwise deliberately emotionally and visually bleak and sterile landscape.

Sneakers (James Horner)

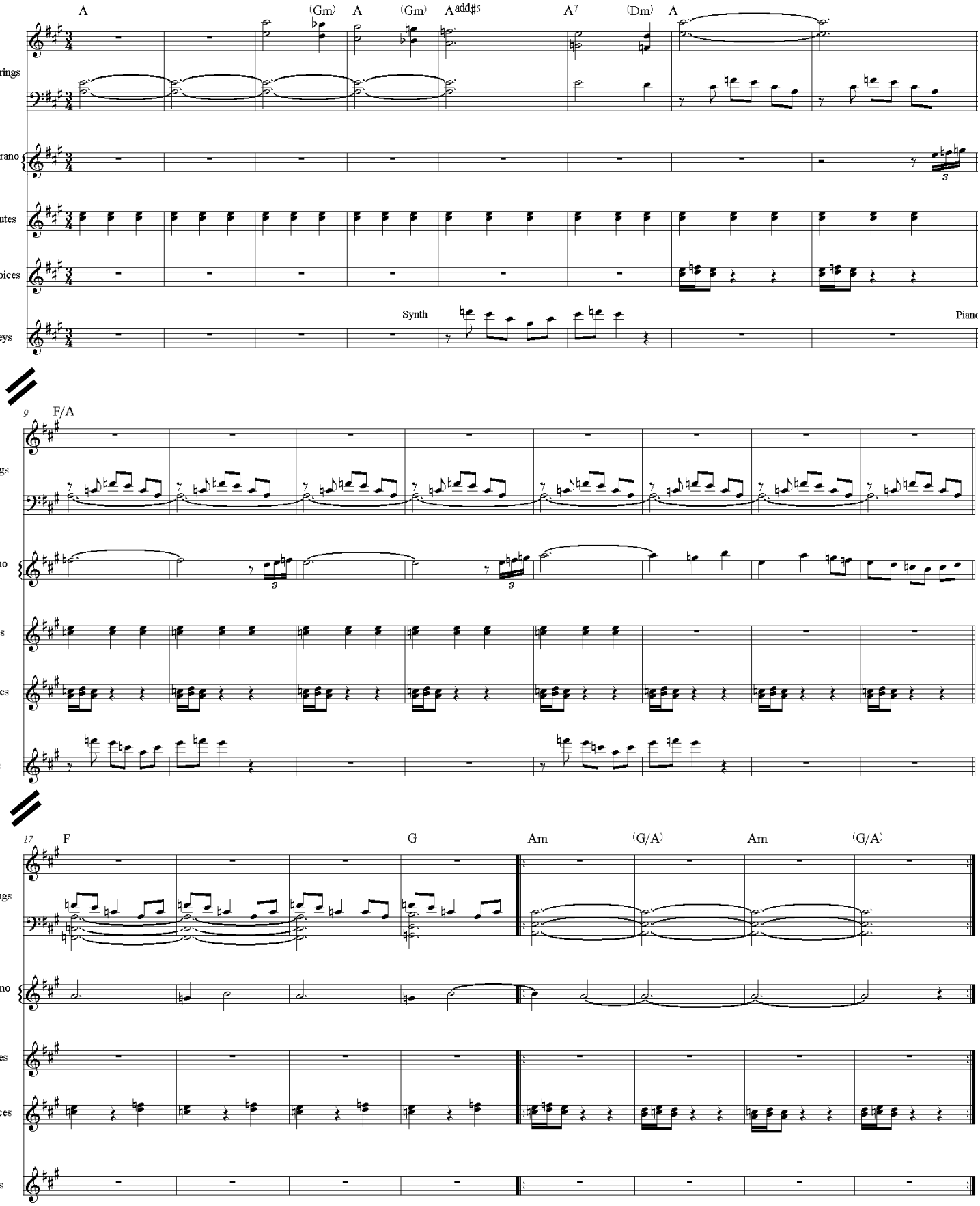
Sneakers is a light-hearted thriller about computers and cryptography featuring governments, espionage, secrets, deception and betrayal. Martin Brice, a former secret service agent, now living undercover using the alias 'Bishop', runs a team of security specialists – 'Sneakers'. Corporations pay Bishop's team to test their own security systems by attempting to breach them. Thus Brice gets paid by banks for attempting (and usually succeeding) to break into their banks and steal their money. Horner's score for *Sneakers* is arguably one of his finest. It displays his vivid sense of imagination and his eclectic and versatile ability as a composer; his ability to fill scenes with colour which affects our emotional response to the movie. This is a light jazz score, intermingled with elements of trademark Horner harmonic tensions. There are some beautiful themes, great harmonic sequences and exquisite orchestration and instrumental combinations. Key to our study is how Horner's music appropriates and distils the essential flavour of the story of *Sneakers*. This film functions quite easily on a number of levels; it is a serious thriller with themes of espionage and cryptology but it has subtle comedic elements too.

It's an interesting exercise to try and imagine how you, as a composer, would react to a brief where the film appeared to function on several levels; musically how would you play a film about computers, cryptography, governments, spies, espionage, secrets, deception and betrayal *with* elements of humour? There would seem to be no clear way through, and yet Horner's music works so perfectly that it seems an effortless fit; almost as if the movie was made with the music. The two are inseparable. The true hallmark of a great composer is that they write music for film *after the event* which feels so natural and works so wholly and completely that we cannot conceive of them ever having been apart.

The opening main title theme arrives 00.03.26 into the movie, set some years in the past when a teenage Martin Brice and his then friend and associate were working in an old disused building, using computers to commit fraud and redistribute wealth more democratically. As the police arrive Brice happens to be out of sight and is not caught; his friend *is* caught and goes to jail. This scene introduces Horner's opening theme, which functions as an indicator of what the musical flavour of the film will be; the music isn't too serious and isn't overly comic, but it does possess characteristics which suggest feelings of mystery and have clandestine and melodramatic furtive suggestions.

Looking at the score and listening to the cue we can see a careful mixture of a playful 3/4 flute motif, along with drama and colour created by the ascending strings written (using 6^{th} intervals) conveying slightly skewed, quasi Middle Eastern-sounding harmonies (Gm and A chords). Add to this the #5 flavoured up-and-down repetitive synth lines and the distinctive and quirky use of #5-oriented human voices (fig.6, bar seven onwards) and you have a vivid and eclectic collection of contrast and colour which is generally and gently suggestive of the #5 – an extremely vivid, if melodramatic interval found in, amongst many others, James Bond scores. Once again this is a great example of harmony distilled through subtle instrumental flourishes rather than heavy-handed chordal statements. A chord including #5 is captivating but completely and immediately revealing. Delivering harmonies via a few carefully timed horizontal statements is in some cases a much more subtle appropriation of style and distribution of harmony. Also most of the first few bars are quite lightly and diversely orchestrated; there are no full chords until bar seventeen (strings).

Fig.6 *Audio 'Main Title' Movie – 00.03.26*



A great example of Horner's variously playful, dramatic and vivid piano writing and sense of rhythm and harmony can be found in a cue entitled 'Too Many Secrets', a track from the soundtrack album which comes 00.38.50 into the film and features two intensely rhythmical piano lines in similar high ranges. Horner is particularly good at this kind of writing which he has used in other films successfully.

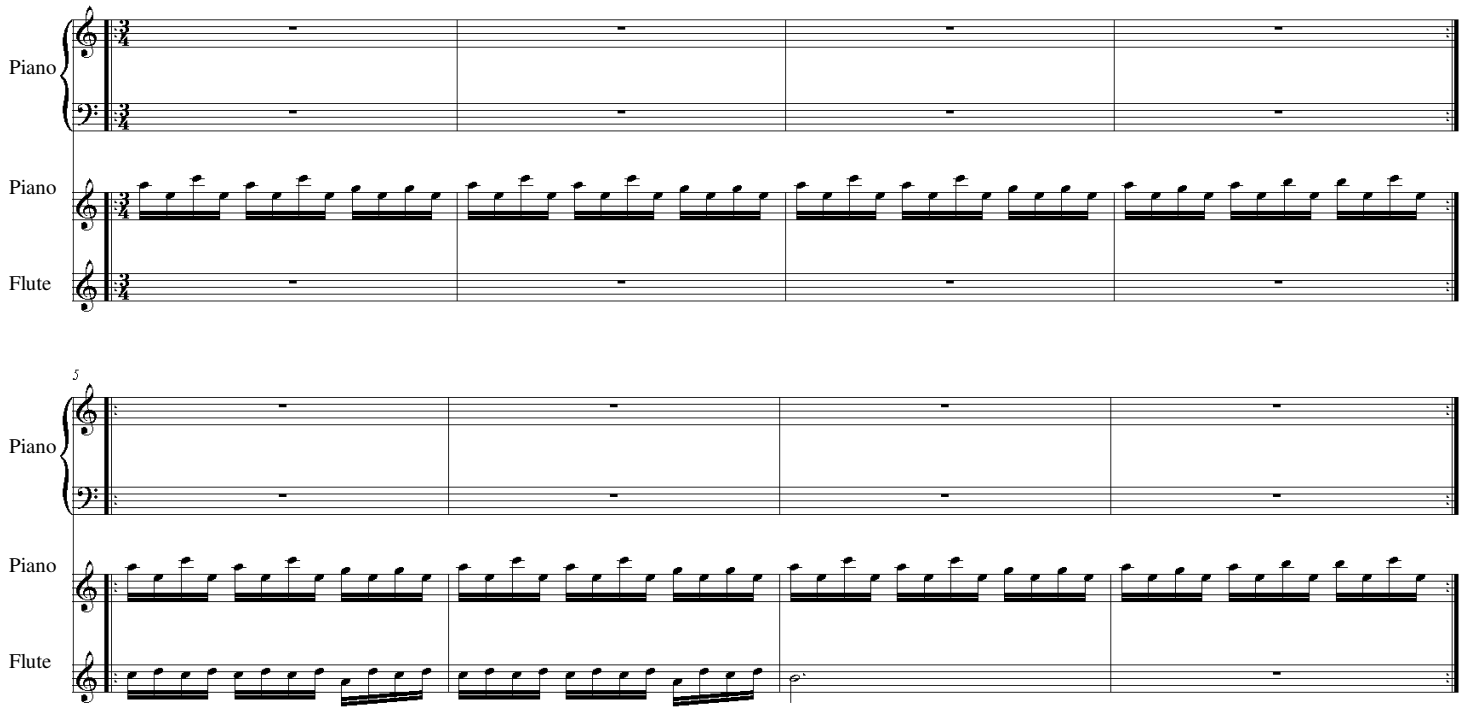
Invariably great film composers are also great arrangers, since the two roles are inseparable. People imagine that being a good arranger is primarily about how we place instruments and sections together successfully, but one of the other skills arrangers must have is the ability to be able to write for a single instrument in an imaginative way.

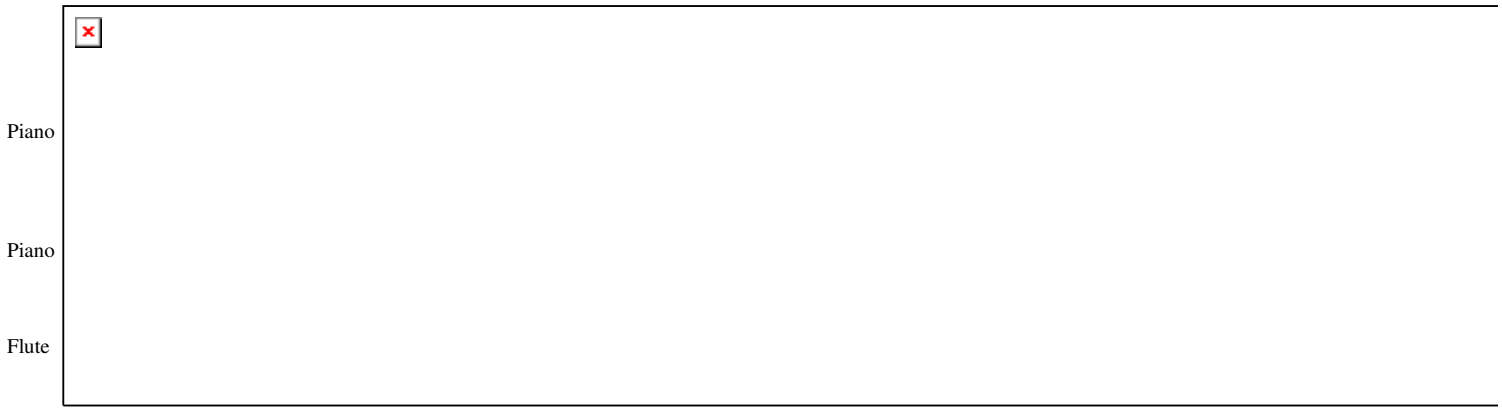
Pianos play harmonies, which means that in many ways it can function like a 'pocket orchestra' with many notes playing simultaneously. The textures of individual notes have a 'sameness' to them but we can still extort much harmonic colour from the piano, as many composers have shown through the ages. Horner's piano writing may not 'sound' the same as Chopin, Debussy or Beethoven, but his ability to extract colour from the piano puts him firmly in the same league. This cue comes during a gathering between Brice and his fellow Sneakers.

The group is attempting to grasp the meaning of the term S.E.T.EC., which is the first word of what they assume is a company called 'Setec Astronomy', a name written on a secret machine they've stolen for a client. The machine, which breaks supposedly impenetrable codes, is being studied by Brice's colleagues. They presume S.E.T.E.C is an acronym but Brice suddenly realizes that 'Setec Astronomy' is an anagram of 'too many secrets'.

As the significance of Brice's discovery sinks in, he stares into space, at which point Horner's cue 'too many secrets' begins. This represents one of music's primary functions in film – to ensure the viewer 'gets it' and is aware of Brice's reaction; the music draws you to the character and underpins the significance of the scene.

Fig.7 *Audio – Too Many Secrets 00.00 Movie – 00.38.50*





The piece possesses a curious light Baroque feel thanks to the semiquaver piano motif. The Am harmony is suggested and delivered gradually but what gives the line a sense of colour and makes it harmonically distinctive is the addition of the 7th (G). The reason for this is that the G note lends the 'horizontal' harmony a subtle suggestion of two *simultaneous* chords (C and Am) which in turn, with the alternate E note, creates a slight, almost imperceptible dreamlike quality. The piece really comes to life in bar nine when the second piano motif arrives. The suggested harmonic flavour (Am7 / C) is joined by the B flute note in bar seven. This (with the continued statement of the G note throughout) creates more than a whiff of a G chord simultaneous to the Am, which creates a very mild, subtle harmonic polytonality where the chord slightly loses its harmonic rigidity.

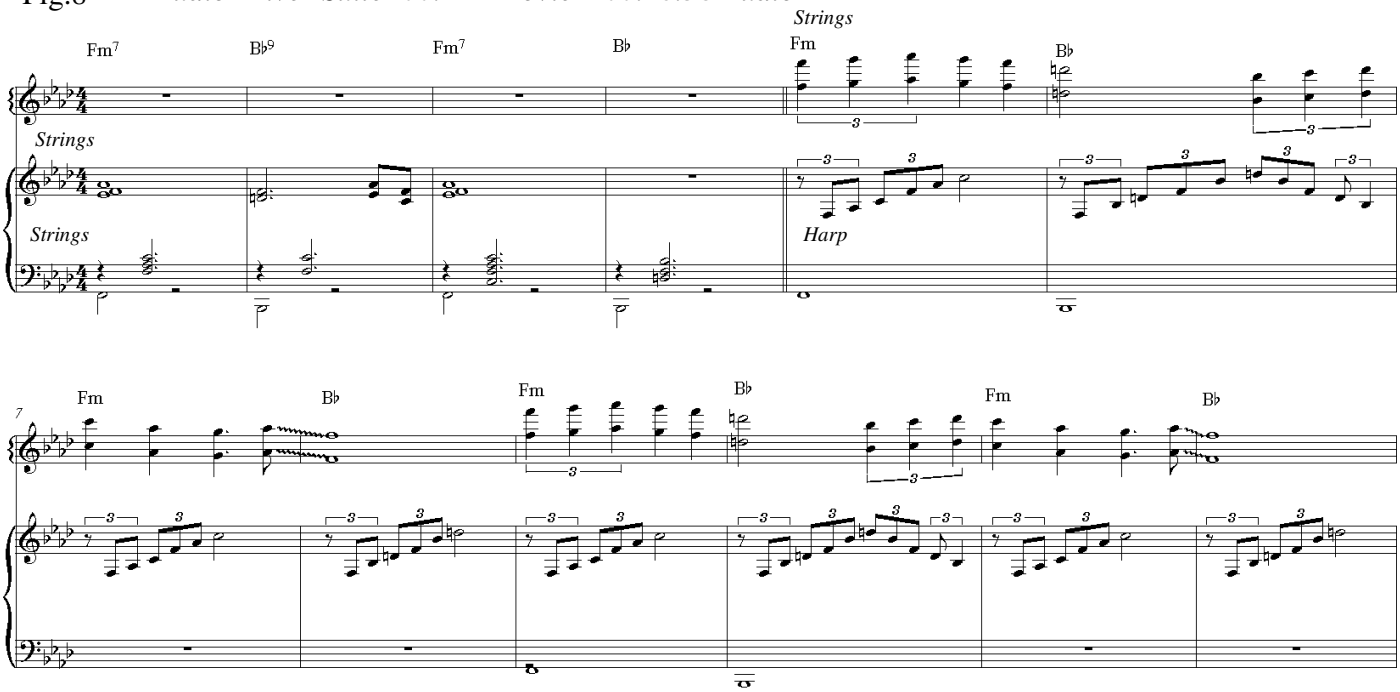
The piano and flute notes are quite high; this approach can work well when the dialogue spoken by actors is considerably lower than the instruments playing. This means listeners are more able to hear both equally. Writing 'out of the way' of the sonic range of the dialogue or special effects is an important consideration.

Rogue (Francois Tetaz)

An Australian wildlife cruise turns to terror and tragedy when tourists are stalked by an enormous man-eating crocodile. The film was allegedly inspired by the true story of 'Sweetheart', a giant Australian crocodile that attacked boats in the late 1970s. A vivid, communicative and eclectic score provides excellent musical accompaniment and succeeds in raising the film's impact significantly. A careful and considerate mix of aboriginal vocals, didgeridoo drones and lush strings by composer Francois Tetaz speaks volumes and creates a vivid and emotive soundtrack that expertly reflects the beauty of the landscape, the film's narrative and the terror.

Imaginative music and some beautifully shot scenery elevate this film significantly, creating some memorable moments. One of these is the 'River Suite' cue, which first comes in the film at 00.16.38' as the boat heads up the river. The combination of spectacular scenery and music make this one of the high points of the film.

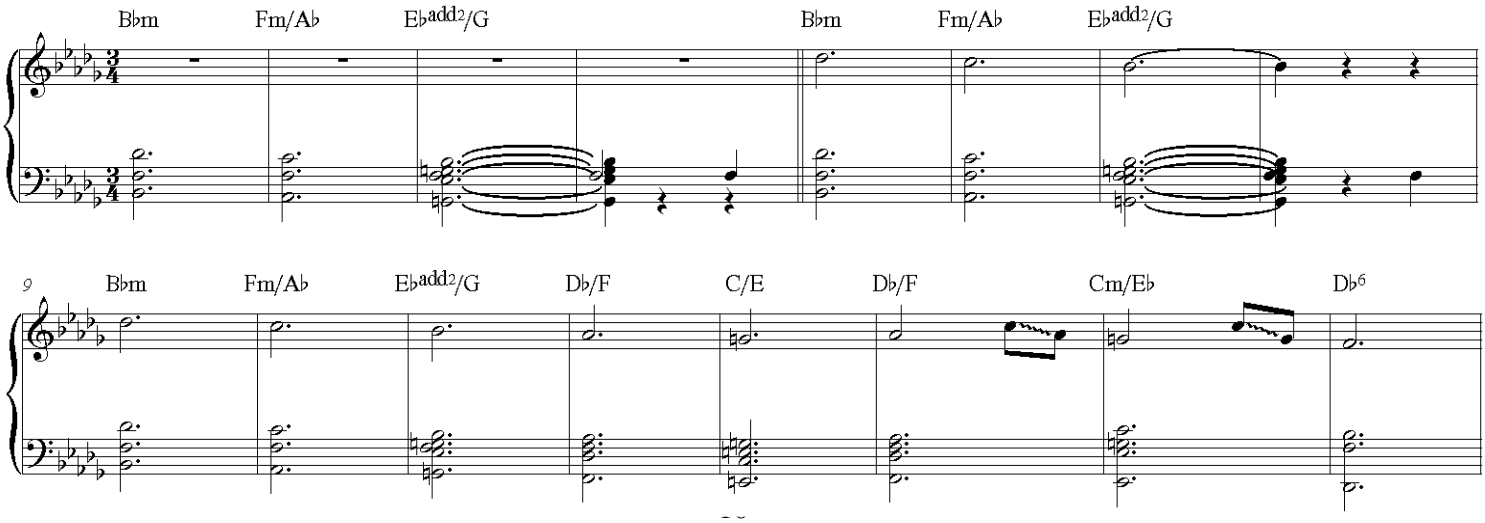
Fig.8 *Audio 'River Suite' 00.24 Movie – 00.16.38 Audio –*



Over and above the vivid instrumental and ethnic percussion textures, there are other perhaps less obvious but nevertheless fundamental reasons this piece works as well as it does: firstly the wonderfully hypnotic and evocative melody line works well because the line uses crotchet triplets, which by definition 'cross the beat' over a quaver triplet harp counterpoint. The rhythmic richness of the juxtaposition between the two creates a distinctive feel; a groove. Secondly the glissandos at the end of bars seven and eleven are extremely distinctive, almost a sonic 'calling card' for the movie. Perhaps the most filmic device used is one we have referred to countless times in this book as the 'sci-fi chord change'. Such a chord change goes from a tonic major chord to a minor chord a 5th above or a 4th below (C to Gm, D to Am, A to Em, E to Bm or F to Cm, Bb to Fm, Eb to Bbm or Ab to Ebm). This is described in much more detail in the vol.1 chapter entitled *Music Theory in Action*.

Another extremely effective cue is a track entitled 'Alone'. The chords in bars two/three, six/seven and nine/ten are all descending 1st inversion chords which slightly italicize and dramatize the sequence. The chords are voiced well, too; the close-part cluster voicing works well in bars three, seven and eleven, all of which have the colour of the added2 in the cluster. Another issue is, as in the first transcription from the film, the glissando string melody in bar fifteen and sixteen.

Fig.9 *Audio: 'Alone'*

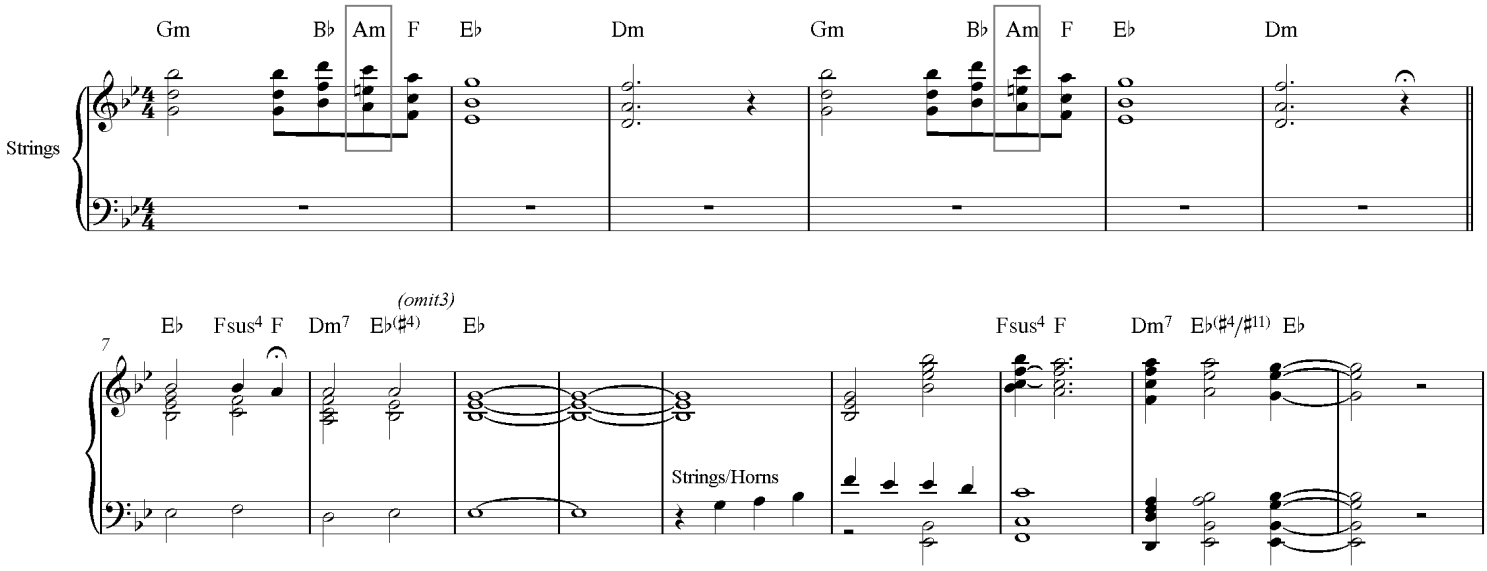


Contact (Alan Silvestri)

Contact is one of the most genuinely thought-provoking and poignant films dealing with the concept of extraterrestrial life to be made in recent years. Dr. Ellie Arroway, a SETI scientist, hears signals which eventually appear to come from a faraway planet. The film succeeds in the same way many great science fiction 'alien' films succeed; because the story exists on several levels. In the same way that *Signs* is more about humanity and belief and ultimately God, than it is about aliens, so *Contact* is at least partly a narrative platform to discuss moral and ethical conflicts between religion and science. How these two areas would function given apparent contact with extraterrestrial intelligence is a subject that is addressed in the film. A point of discussion is the existence of a God, with different positions being portrayed. One of the characters, Palmer Joss, is a strong believer in God just as Arroway is firm believer in science, but Arroway's suggestion that Joss' belief was a significant personal experience but indicative of nothing greater is a subject of discussion. I mention this because the music in many ways seems to follow *this* story, rather than the science fiction.

Signals sent from an alien civilization are converted via mathematics into images of what appear to technical drawings and specifications for a giant construction which can be used to send a human through a 'wormhole' to a faraway planet. Eventually Ellie travels to the planet where she meets a physical representation of her late father, an image chosen by the aliens as a friendly face Ellie will respond to. Eighteen minutes later she returns only to find that according to mission controllers only an instant in time has passed and that she had never left the earth. Alan Silvestri's cue 'I believe her' comes toward the end the movie where Ellie, who is convinced she travelled to the planet and experienced nearly twenty minutes of real time, is giving evidence to a special American government committee. Towards the end of her testimony there is an attempt to discredit her by suggesting that the whole affair was an elaborate hoax, after which she tearfully and quietly reaffirms her belief. This is where the cue begins.

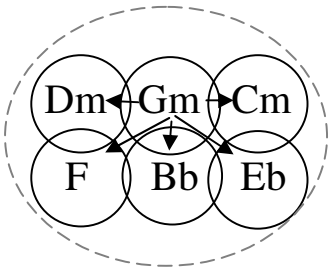
Fig.10 *Audio – 'I believe her'*



The deftness of touch displayed by Silvestri's string writing is palpable and also exceptional because it manages to convey so much emotion with so few notes. Achieving more emotional response with comparatively little actual physical music is always good because the effectiveness of the music is more in the *interpretation* of it; it becomes more than the sum of its parts because it goes through the filter of our own interpretation. If music is physically light but emotionally great, the main way this happens is in the mind of the listener. Whilst most music communicates quickly, *this* kind of scoring communicates sensitively, indirectly and delicately because the listener's interpretative abilities are more involved.

If we look beyond the soft textures of the strings and into the harmonies, we find two places of real tension. These represent the dramatic moments; the moment where the piece 'speaks'. The piece is in Gm; if we briefly examine chords 'normally' found in the Gm key centre (as per the method discussed in the vol.1 chapter 'Music Theory in Action') we can see how far the key centre 'stretches' in either direction from the Gm.

Fig.11



We can see that the 'slightly odd sounding chord' in the initial six bars of the phrase (fig.10, highlighted) is the Am, which lies outside the group of chords we normally find in the key of Gm

When we listen to the cue the Am chord is indeed the slightly odd one, which seems to draw attention to itself and lift the piece dramatically. The Am sounds slightly, almost imperceptibly, odd because it eludes more to the key centre of C. The E note within the Am chord wouldn't 'fit' within a Gm chord, where it would represent a slightly odd sounding maj6th interval over a minor chord. Although the E note and the Gm chord do not appear together, they pass close to each other and are part of each other's harmonic context. One of the most important issues is Silvestri's voicing; the initial chords are all voiced (from bottom to top) as root, 5th and high 3rd (10th). It is this consistent, clinical and almost parallel voicing which exposes and italicises and exaggerated the slight oddness of the Am; there is no attempt to disguise it or mitigate it through sensitive voicing. The interplay between the sus4 (bars seven and thirteen) and the #4 (bars eight and fourteen) is effective too; the intervals are accentuated by their placement on top of the voicing. The separate but simultaneous chordal contour underneath the same line (Eb, Fsus4, F…Dm, Eb#4 Eb) draws out the 4th and # 4th intervals above. Essentially the cue offers some soft but simultaneously dramatic harmonic contours.

Cast Away (Alan Silvestri)

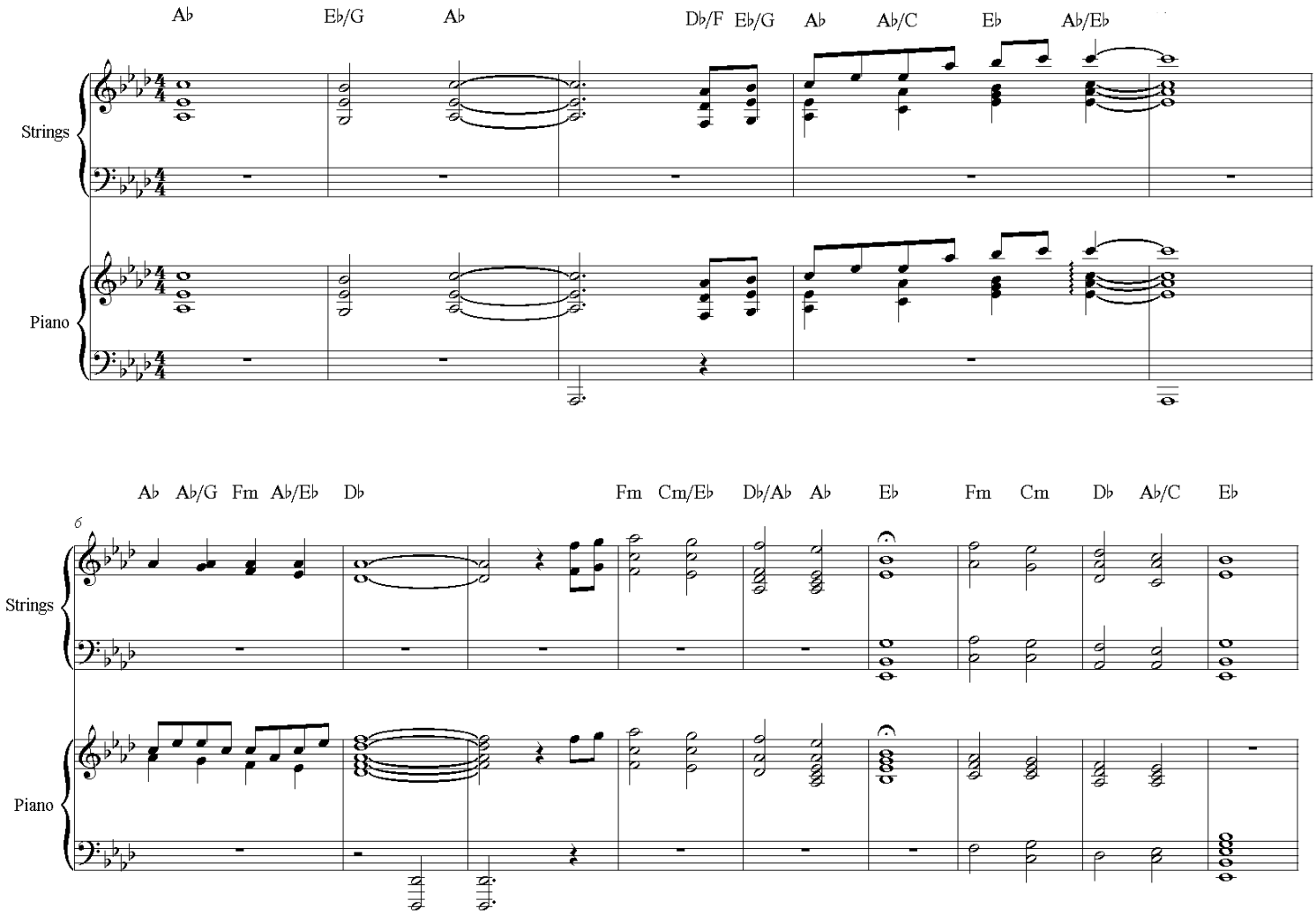
"Cast Away celebrates the idea that no matter how many obstacles are thrown in our paths, we will find ways to accept them. The story is not so much about the survival of a human being, but rather the survival of the human spirit and an illustration of the idea that surviving is easy; it's *living* that's difficult"; so said director Robert Zemeckis when referring to *Cast Away.*

Cast Away stars Tom Hanks as a FedEx employee stranded on an uninhabited island after a plane crash in the South Pacific. The film depicts his successful attempts to survive on the island and his eventual escape and return to society, years later. The film is notable for its lack of score and creature sound effects (such as bird song or insect sounds) while 'Chuck' is on the island, which is intended to reinforce the feeling of isolation. *Cast Away* contains no original musical score until Chuck escapes the island. People have a tendency to presume that when a film has little music, this is invariably the director's choice, but it was Silvestri's decision to lightly score the film and to only score it once Chuck is away from the island. Composer Alan Silvestri spoke to Christian DesJardins in his excellent book 'Inside Film Music': 'As I saw the film, I was just salivating, waiting to jump in there and make my contribution. But I keep watching and watching and I just keep saying, "There's nothing I can do that would be right, that would add anything to what I'm seeing". I'd have Bob looking at me saying "Nothing yet, Alan?" I answer, "I don't think so, Bob." ….The first time I felt there might be a place for something was when Tom left the island. When he broke over that wave all of a sudden it was a new game'.

Alan Silvestri wrote a wonderfully communicative and emotional cue which is used in several places to great effect; firstly the scene where Chuck loses 'Wilson' (a basketball - his only 'companion' on the island) during his escape on the home-made raft.

The cue is typical of the inherent lyrical beauty of Alan Silvestri's romantic writing. The same music in a slightly different guise comes toward the end of the movie where Chuck, who survived years stranded on a deserted island, visits his now remarried former wife. An intensely emotional scene takes place after Chuck has left the house, when his former wife runs toward him and they embrace.

Fig.12 *Audio – End titles 00.48*



Once again the first phrase of the piece is supported by the classic rich string voicing of root, 5th 3rd (10th). The second phrase which begins a beat before bar four and ends on bar five is particularly effective, once again due to the specific series of inversions, which allow a separate consistently upward contour featuring the lowest note of each chord; F (maj3rd of the Db chord), G (maj3rd of Eb), Ab (root), C (maj3rd of Ab), Eb (root) and Eb 5th of Ab). The inversions cause drama which is juxtaposed by the soft textures of the strings and piano. The piece has a brief mild dissonance in bar six where the strings break out from initial unison to harmony. This line works as an excellent counterpoint to the *actual* melody on piano in the same bar. One of the interesting points is that without the drama of inversions the piece might be *too* simple and romantically oriented. The ordinariness of root-positioned chords along with the soft string textures is in need of a lift, which the inversions offer.

If we ask why this music communicates so emotionally and vividly, over and above the musical analysis we've just done, there is one other reason: the comparative lack of music in the rest of the movie invites disproportionate attention to the few cues there *are*. We have discussed regularly the issue of the context in which music exists and how it is 'delivered'. Mostly this refers to how the success of one particular section or bar of music (or even one moment) depends on how it is delivered, musically; a particular chord might only sound good because of the relationship it has with the chord that came before it and therefore 'framed' the context. In context of Alan Silvestri's poignant cue (fig.12) and in a more general sense we are perhaps drawn to the conclusion that the comparative lack of music has itself italicized the cue and therefore made it more acute.

Above all else we are creatures of habit and routine. The context in which 'things happen' in our lives governs everything: we would barely notice a garage at the side of a house unless it was ridiculously out of proportion in size. We wouldn't look twice at a tree in our garden unless the leaves were blue; then we would be amazed. We get used to things being a certain way, and this regularity, sameness, consistency and inevitable symmetry guides us. So if we watch a film which has no music until close to the end, we may not have realised the absence of music until we *hear* it. And this, naturally, alters our perspective; we would hear it in a different, perhaps more acutely aware, way.

Touching the Void (Alex Heffes)

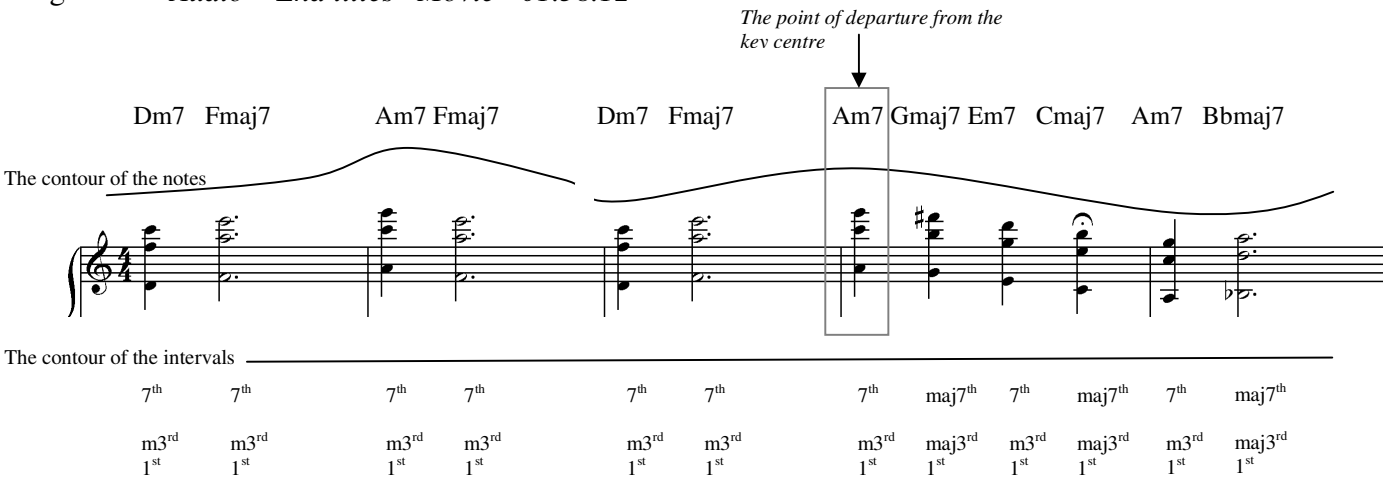
Touching the Void is based on a true story of mountaineers climbing the West Face of Siula Grande in Peru. Joe Simpson, one of the pair, is injured during the descent after falling, resulting in a badly broken leg. After surviving a subzero and stormy night on the mountain, his colleague Simon Yates descends but cannot find his partner. Deciding his partner must be dead, and in order to save himself, Yates returns to the base camp alone. Simpson, who in fact *had* survived the fall and subsequently spent days' crawling across glaciers and rocks with a broken leg and other injuries, eventually crawled towards the climbers' base camp just hours before the time at which Simpson had decided to leave.

The end-credits music is extremely successful in summing-up the barrage of emotions in the film's story, distilling the mixture of desolation, tragedy, triumph and euphoria into a simple musical and emotional statement which unifies the film and distils its contents into one piece of music. The introductory piano motif is not entirely dissimilar to Alan Silvestri's 'I believe her' from *Contact* in that it provides a sequence of identically voiced and almost parallel chords, this time using a ghostly reverbed piano. The identically voiced chords create a rigid, distant chromatic feel. And like the Silvestri cue there is the 'red herring' of a chord which seems out of the key centre, which provides colour and drama. Bars one and two create the feeling of a Dm/Fmaj key centre but the Am7 in bar four, rather than lead *back* to the Fmaj7 as it had done on bar two, paves the way for a new key centre with the subsequent chords of Gmaj7, Em7 and Cmaj7 implying a key centre of C.

The 'red herring' is the initial Gmaj7 (boxed). But the new key centre of C is short lived before the Bbmaj7 comes. In this intro nothing can be taken for granted or relied on; things change when you least expect them to. The simplistic innocence of the textures (the pedaled and reverbed piano) together with the subtlety of the articulation, are key factors but it is the harmonies and the voicings which make this short intro so compelling and communicative.

As with so many pieces which communicate in an intensely emotional way there is some kind of hypnotic or mesmerizing element. We often talk about notes remaining static whilst their intervallic context moves; we have discussed how this is one of the main ways music converses with its audience. On this occasion however, we see (fig.13) the effect of the exact opposite; the intervals in relation the chords in which they appear are virtually identical all the way through but the physical notes move. This creates a palpable sense of squareness in the music; the notes move but what they 'mean' intervallically *doesn't*. This fundamental dynamic creates some of the hypnotic qualities mentioned earlier. The intervallic parallel feeling is caused because the intervals mostly remaining constant.

Fig.13 *Audio – End titles Movie - 01.38.12*

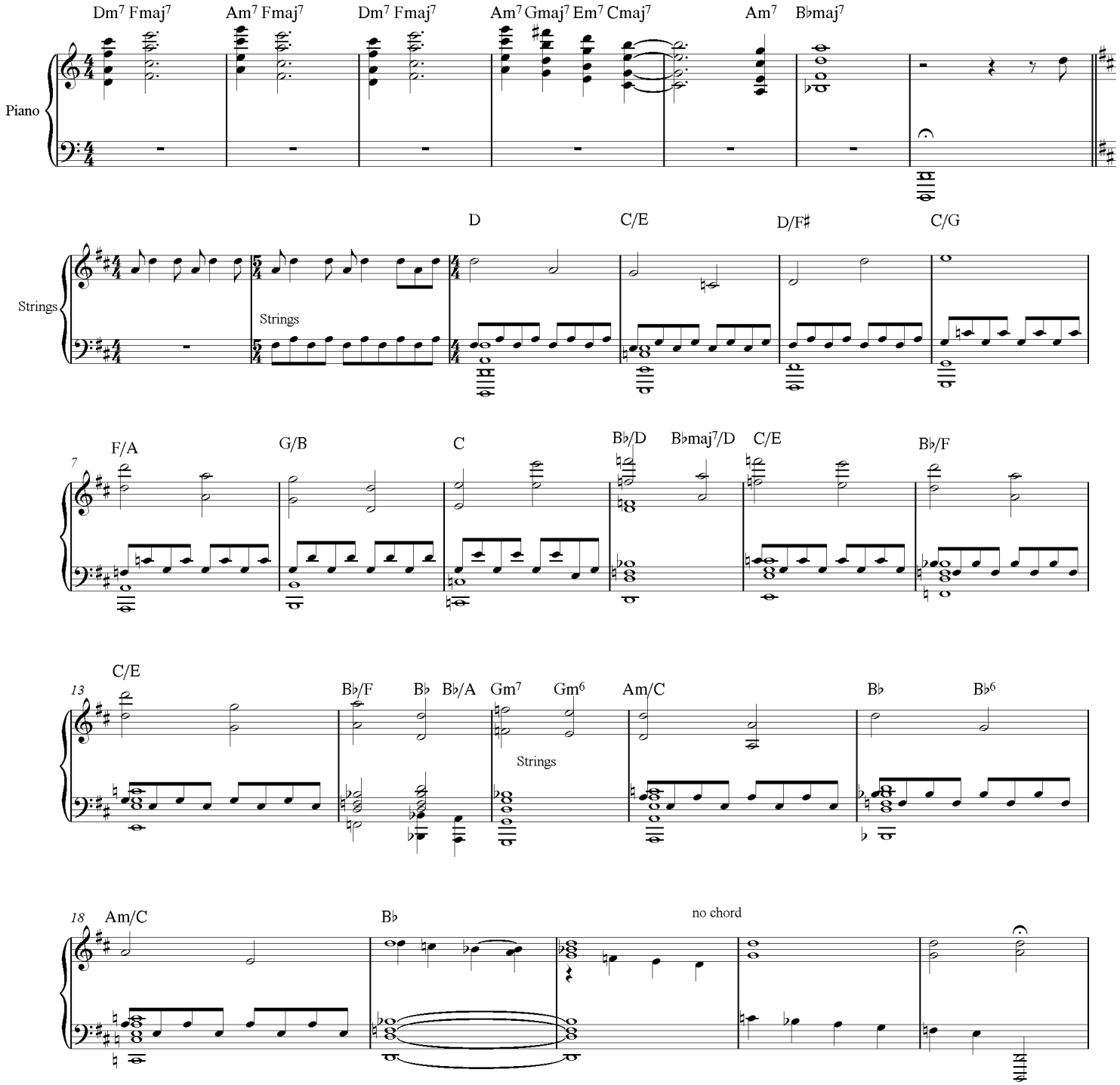


Every interval in music conveys a distinct flavour and characteristic; this flavour or character is largely product of our interpretation and reaction to the way it sounds.
Such is the consistency and similarity of our aural and cognitive reactions to harmony, the character of a chord is frequently felt by everyone. We have discussed these factors elsewhere at greater length. But the *precise* flavour and character is ultimately not just the byproduct of our own assessment, it is the product of the instrumental context in which the harmony is delivered and our reaction to that environment. Even given the variables at work it is nonetheless the fact that most composers can extract exactly the emotion they require by carefully choosing the chords they use and the context in which they use them. For example context determines in which way we rationalise a perfect 5th (it might be Thomas Newman's heavily reverbed 'square' left-hand piano parts or John Williams' rousing *Star Wars* motif). Similarly, for example, context shapes our reaction to a sharpened 4th; we might enjoy Danny Elfman's playful use of it in *The Simpsons* or Thomas Newman's deeper use of it in *Six Feet Under*. Or we might prefer Alan Silvestri's use of it as a central dramatic feature of the music to *Back to the Future*.

I mention this because in fig.13 we have a situation where the intervals are constant, almost monotonous; therefore their 'flavour' is exaggerated, italicized and 'in our face'. With this in mind there are a couple of important issues with the chord voicing which need our attention; there is a sizeable gap between the root note and the next one up (three part harmony would normally tend towards a consistent even gap between all three). The 7th (and maj7th) are quite exposed, being at the top of each voicing. But perhaps the biggest point to mention is the complete absence of the 5th in any of the chords. The root, 3rd and 5th are the basis of harmonic structure; the root and 5th provides stability whereas the 3rd provides the colour, specific identity and, to a degree, emotion. If the 3rd is absent from a chord it is immediately noticeable; the chord will sound bare and characterless. If the 5th is missing it isn't immediately *as* noticeable; of all the primary intervals it's the one you can lose for a while without much trouble. But in this excerpt the 5th is *permanently* absent eventually lending the chords an almost imperceptible sense of incompleteness.

Although the tiny, almost imperceptible lack of one element of the structure of the chord would barely register under normal conditions, *because* the voicings are identical throughout, this draws attention to the lack of the 5th. This is not the same kind of absolute, immediate and obvious emotion that a missing 3rd would create but it is there nonetheless. That tiny lack of complete structure lends the piece a slight tenseness and anxiety. The main theme itself, which begins on bar eleven (fig.14), is slow, deliberate and contemplative.

Fig.14 *Audio – End titles Movie - 01.38.12*

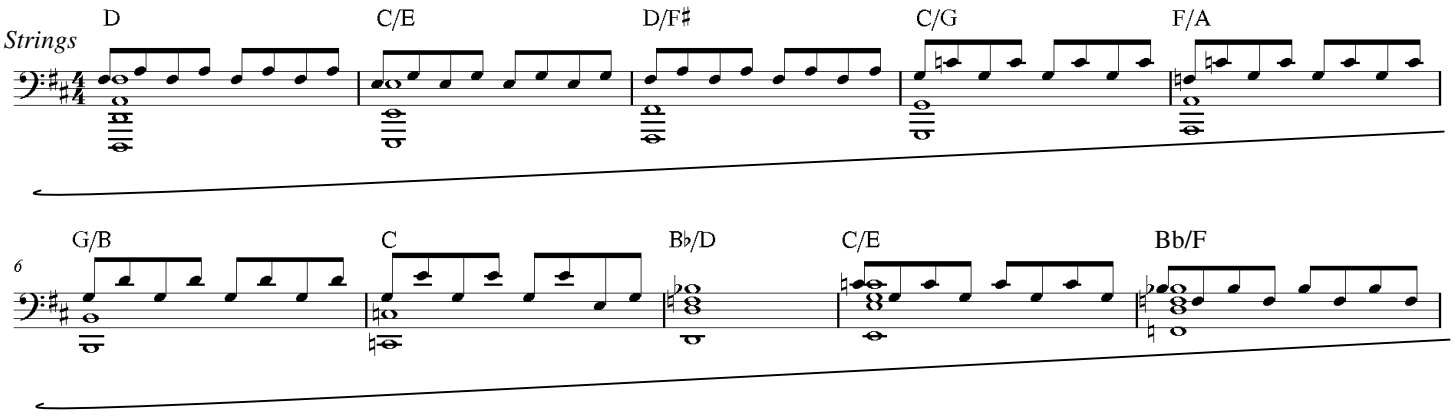


Despite the main theme (bar eleven) beginning on a powerful root-to-5th, ala the grandiose theme of John Barry's *Born Free* (and others) if we are expecting a similar theme, think again. The drama is not provided by a simple interval, but by a sequence of chords (dramatized by plenty of inversions) we don't expect.

It doesn't stay loyal to one key centre; this is an unsettling listening experience which reflects exactly the nature of the story told and the narrative of the film. One of the most interesting aspects of the piece from bar eleven is the careful use of inversions. Inversions fulfill two roles here; they dramatise and italicize the chords, as we've seen in countess other film music examples, but they also serve to deliver a consistent, ascending and dramatic bass line, which could be heard almost as an alternate melody. There is a difference between what we hear and what we listen to; we often presume that we are most heavily influenced by that which we can hear clearly and therefore rationalise and interpret. It's a natural human assumption to believe that we're most affected by things we can realise and *understand* and that they are the therefore the most important aspect of the music. It would seem absurd to most people to imagine that they may be being affected by something they are unaware of. But because the vast majority of people are unable to grasp the complex intricacies of how music is conceptualized, composed and created and equally how music structure works, a musical experience is one of those rare things where people are likely to be influenced by factors not only that they don't understand but which also they are completely unaware of. What we 'listen to' on a deeper level can sometimes be something buried so deep that we don't *feel* it happening and aren't conscious of hearing it.

There's a good chance, therefore, that one of the things that causes us to engage emotionally is the dramatic ascending bass line. The string line may be the 'official' melody but in some ways the bass contour is on its own journey. Just the chords, bass contour and counterpoint from the main part of the theme from bar 10, fig.14 are featured below (fig.15). The bass contour represents a line of consistency in an otherwise deliberately unnerving and sometimes disorientating chord sequence.

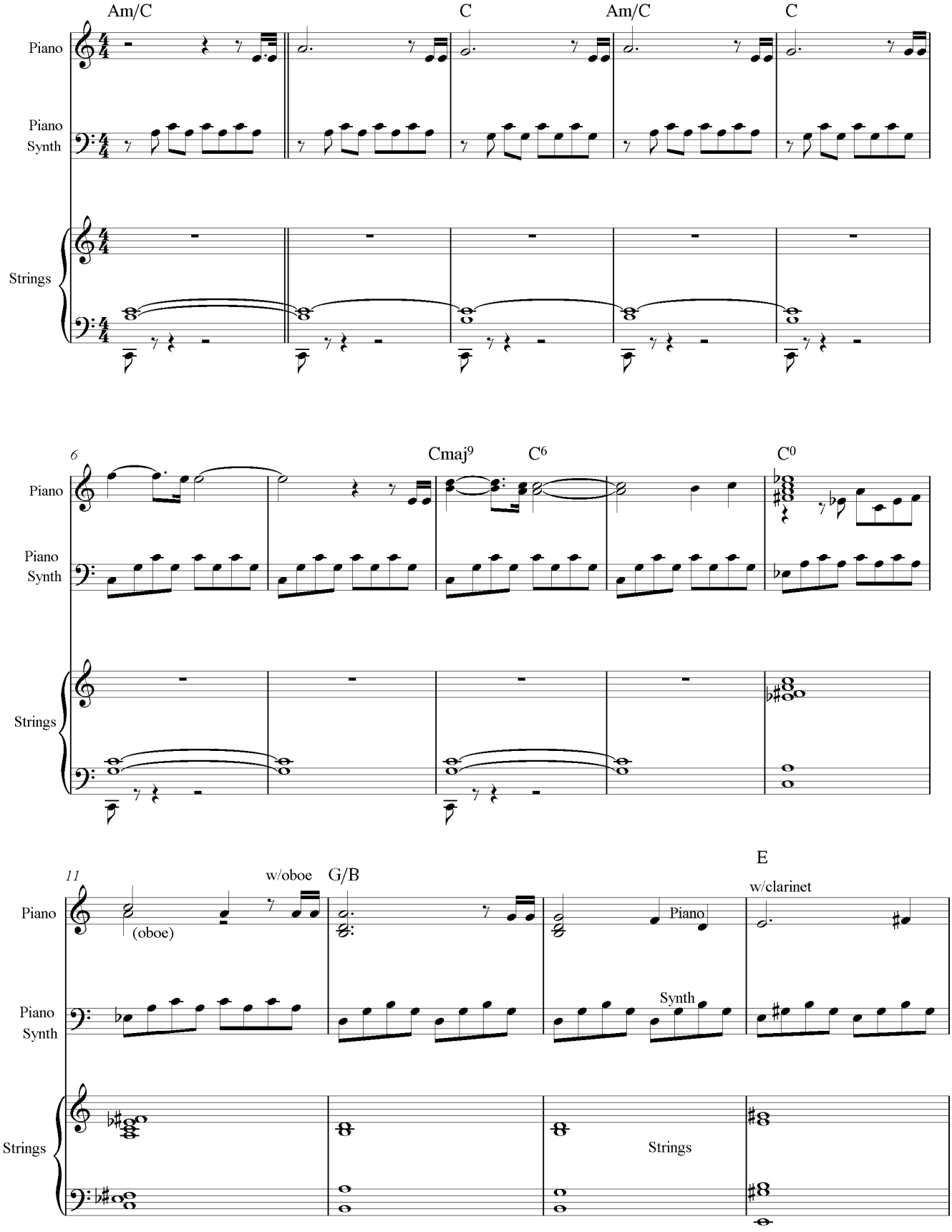
Fig.15 *Chord, bass movement and counterpoint from bar 10 of fig.14*

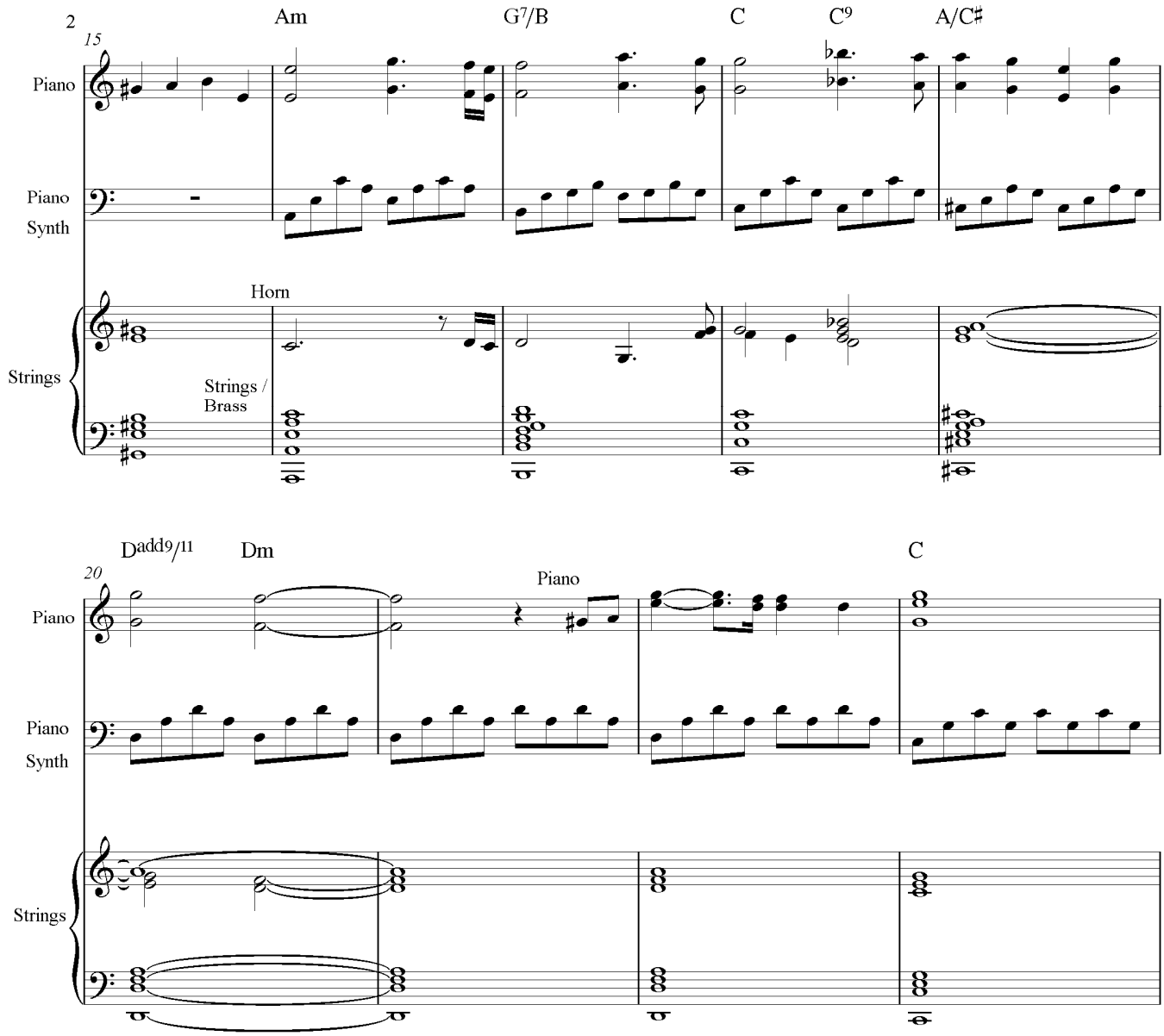


Pacific Heights (Hans Zimmer)

Pacific Heights is the story of a couple, Patty Palmer and Drake Goodman, who buy a house in the exclusive San Francisco neighborhood of Pacific Heights. Their plan to rent the two apartments on the first floor to cover most of the monthly mortgage goes well until the 'tenant from hell' arrives in the form of a professional con artist who manipulates his way into not paying either the rent or the security deposit, and changes the locks on all the doors. His plan is part of an elaborate scheme to use California tenant laws against the owners and obtain the property cheaply. The music is interesting not least because it's an early example of Hans Zimmer's romantic writing. In keeping with his approach in some of his other scores, some of the more memorable moments function as an emotional commentary on the film's story. A track on the album entitled simply 'part II' is played during the film but is best used as the film draws to a close in a scene just prior to the credit roll in which Patty and Drake, having defeated and dispatched the con-man, show a couple around the house which they now plan to sell. The music is resplendent with typical Zimmer lush romanticism and soft harmonies. It functions by tying up the movie, distilling the events into one musical statement which speaks softly of relief, liberation and triumph.

Fig.16 *Audio – 'Part II'*





The cue begins with serene, tranquil textures, simple chords and a soft, easily digestible melody. Hans Zimmer is a composer in the European classical romantic tradition; much of his film music communicates so well to its listeners because it is frequently grand, majestic, idealistic and striking. In this cue his romanticism is communicated by a calm, placid melody which interacts and combines beautifully with the surrounding harmonies and the textures of the instrumentation.

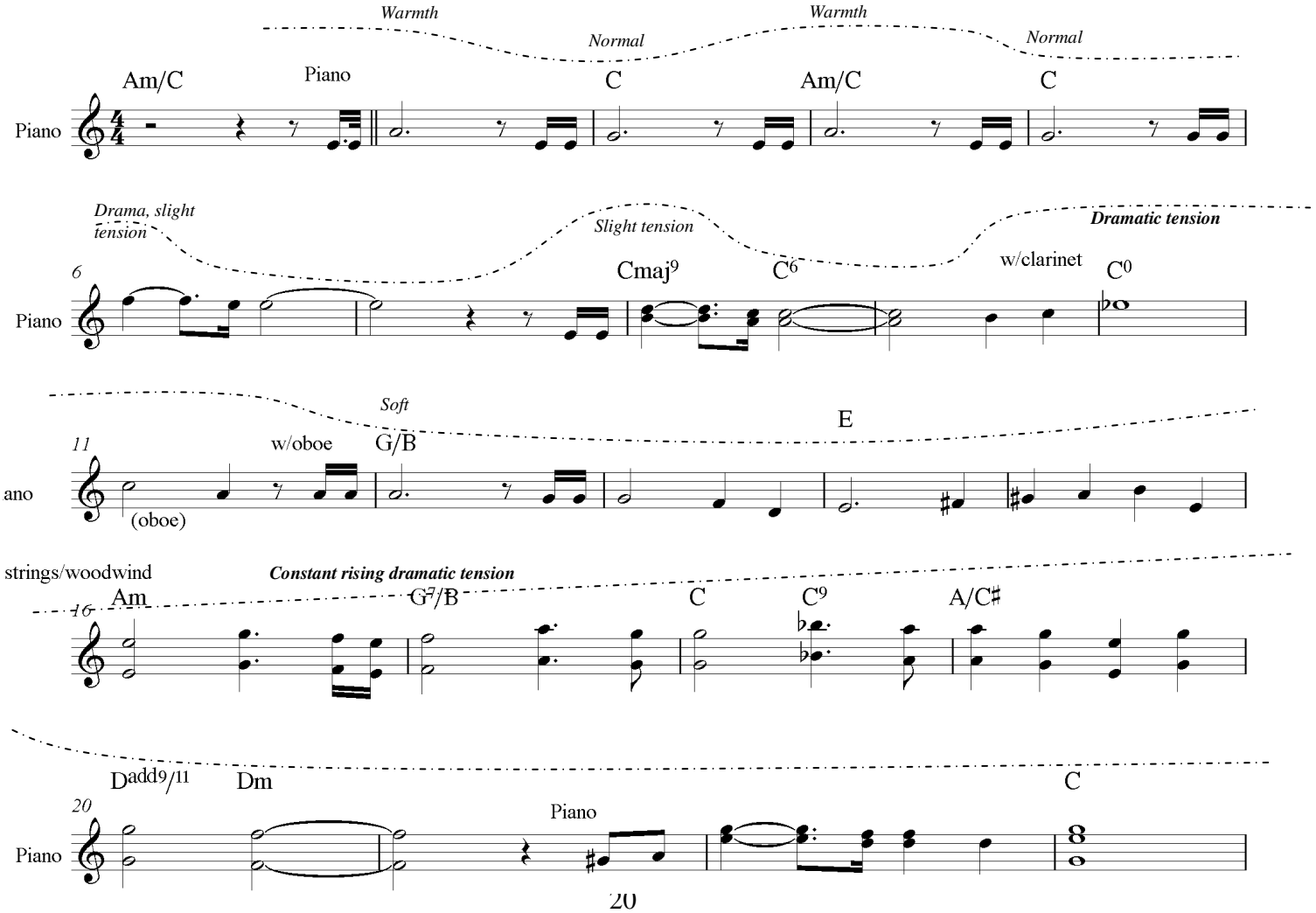
We first hear an Am/C alternating with a C chord. Although the technical name of the chord is Am/C it 'functions' as a kind of 'softened' C6. The reason we don't call it a C6 is because there is no G note (5^{th}) in the chord but still, because of its surrounding context (the alternating C chord) we hear it as a 'softened' C6. What I mean by 'softened' is that, lacking the G note, it also conveniently lacks some of the rather obvious and overt characteristics of a normal C6; traditionally voiced C6 chords have the G (5^{th}) and A (6^{th}) side by side, which can sometimes create rather cheap, garish and obvious colours. Zimmer bridges the gap between C6 and Am/C, creating real warmth. Romantic drama is added on bar six when the melody hits the 4^{th} before resolving to the maj3^{rd} but the main romantically inclined harmonic gesture is the harmonised melody in bar eight which contains the maj7 and 9 together, followed by the octave (8^{th}) and 6^{th} together.

Either chord (Cmaj9 or C6) on its own works okay but, as is nearly always the case, it is the combination of the two groups of intervals, one after the other, which creates the colour.

Bar ten sees a sudden an unexpected dramatic diversion thanks to the instantly communicative diminished chord. This gives way to a softer G/B chord which then leads to the E chord which is the 'pivot chord' leading to the main culmination - the dramatic centre of gravity of the cue which contains several bars of real heightened tension by way of the Am, G7/B, C, C9 and A/C#. Why is this chord sequence so potent? Once again we have the notion of a stated chord very subtly implying or alluding to an alternate, slightly different chord, which means we almost get two chords for the price of one, emotionally; the G7/B (particularly with an F in the melody) is only one note away from a B diminished and the A/C# is only one note away from a C# diminished. It is largely the surrounding heightened and dramatic context which delivers this kind of 'sixth sense' of a different chord. The fact that the silent, unstated chord is theoretical, notional and not actual makes it all the more subtle. Also the key thing to remember is that although we use theory to explain all this, one does not need to understand theory to be a beneficiary of the effect; we simply need theory to understand *why.*

The melody

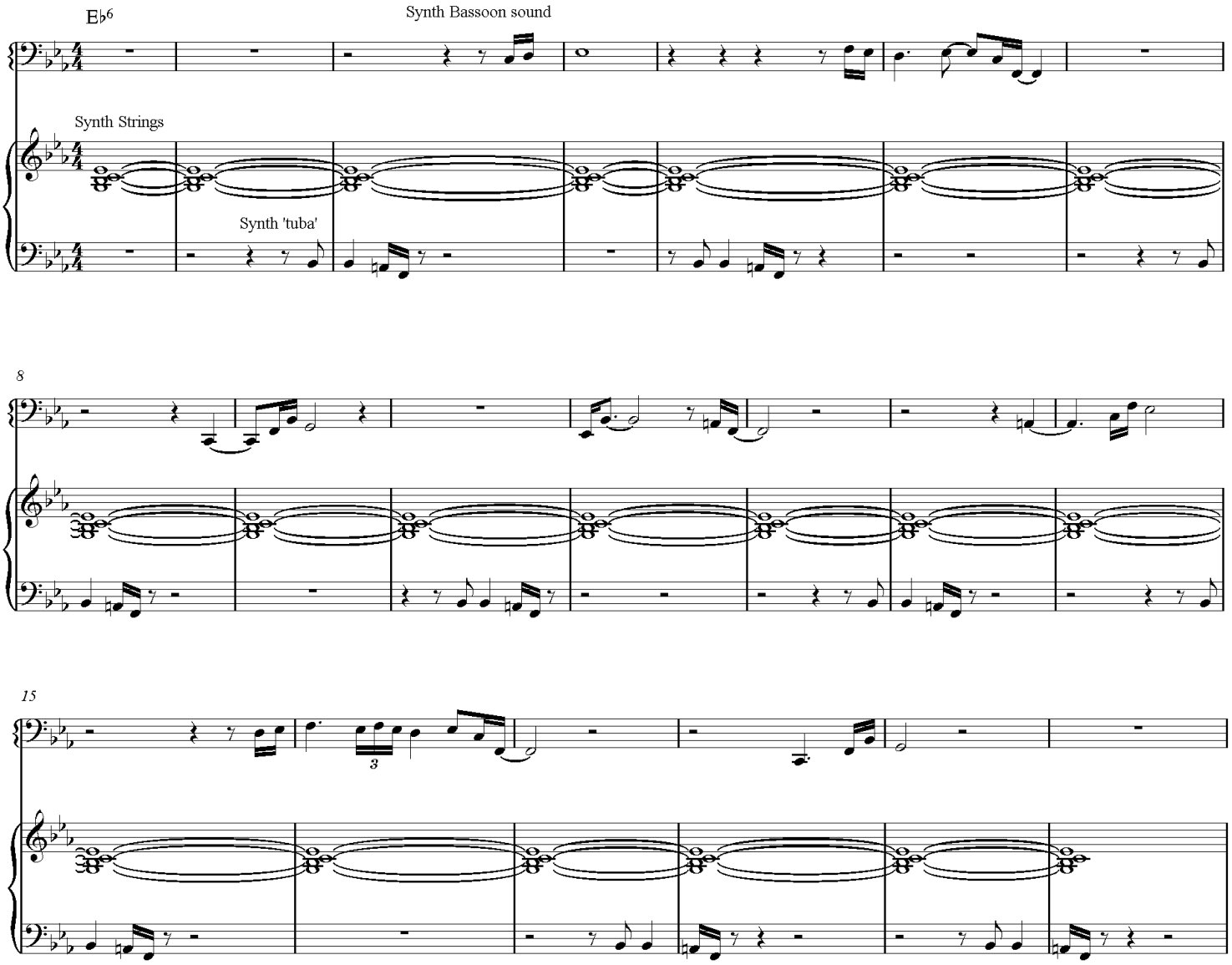
If we look at a representation of the *emotional contour,* as created by the various different levels of drama and tension contained in the intervals of the *melody* (relative to the chord) we see almost a separate melody; an *emotional melody*, which runs simultaneous to the *actual* melody.



Local Hero (Mark Knoplfer)

Local Hero is an endearing and low-key 1983 film, written and directed by Bill Forsyth. Produced by David Puttnam, the film's story revolves round an American oil company which wants to purchase and develop a small fictitious town of Ferness on Scotland's west coast. A representative is sent to Ferness to win over local opposition and 'purchase the town' and surrounding property for the oil company. The film's captivating and enchanting soundtrack was written and produced by Mark Knopfler. His arrangement of 'Going Home', the theme from *Local Hero*, borrows melodic riffs from traditional songs. Knopfler's music is variously intricate and in places introspective. *Rolling Stone* called it "a record that can make movies in your mind". For the purposes of the book we focus on one of the more abstract pieces, analysing a track entitled 'The Rocks and the Water', piece which is hypnotic, entrancing, absorbing and soothing.

Fig.18 *Audio – 'The Rocks and the Water' - Movie 00.51.55*



The piece comes when the oil company's young representative is on the beach talking to a couple of locals. He glances up to the sky and says "Holy cow, Jesus!" after which his local guide simply says "calm down, Mac, it's just a meteor shower". The camera then silhouettes Mac as he watches the shower, accompanied by Knopfler music, which frames the scene beautifully. The piece effectively has three separately functioning sections (one chordal; two melodic) which run simultaneously. They are not so different from each other to cause dissonance but they are different enough to create abstraction; a feeling that the piece as a whole has no real tangible overarching structure. Normally this might cause unease and a sense of restlessness, but the top and bottom lines are held together by one chord (middle stave of the transcription) which runs throughout the piece.

The piece is hard to rationalise or 'place' rhythmically or harmonically, hence the slightly mesmerising feeling, but the central and permanent ambient textured string synth Eb6/G chord creates a real sense of entrancement. The bottom melodic line, which sounds like a 'synth Tuba', plays a motif consisting of two Bb notes, an A and an F, a phrase which repeats throughout the piece at regular intervals. When we hear the initial low Bb we rationalise it as being the inverted 5^{th} of the Eb string chord; it deviates to the A and F, which we still try and understand in context of the Eb chord (as the #4 and 2). Played independently the Bb, A and F notes would be rationalised strongly as octave, maj 7^{th} and 5^{th}. Because the notes have two palpable and parallel intervallic possibilities, this can also produce a mesmerizing effect. The gaps in this motif are filled by a secondary melodic line (top stave of the transposition) which is more 'melodic' in that it *evolves*; it isn't simply the same short motif repeated at regular intervals. Because this line is more obviously melodic we subconsciously attempt to understand it in context of the permanent accompanying Eb6 chord. The first short statement (bars three/four) finishes on the Eb, which gives us a sense of normality; of structure. The second entry (F, Eb, D - Eb, C, F) is much more complex; the first three notes (F, Eb, D) create a whiff of the chord of Bb or Dm. The last three notes of the phrase are harder to place harmonically. The line continues in this abstract way throughout. If there is an identifiable harmonic marker, it is perhaps the A note (#4) in the synth/tuba part. The piece creates an abstract hypnotic sensation and together with its distinctive and variously soothing and strange textures and synth sounds, is extremely effective and memorable.

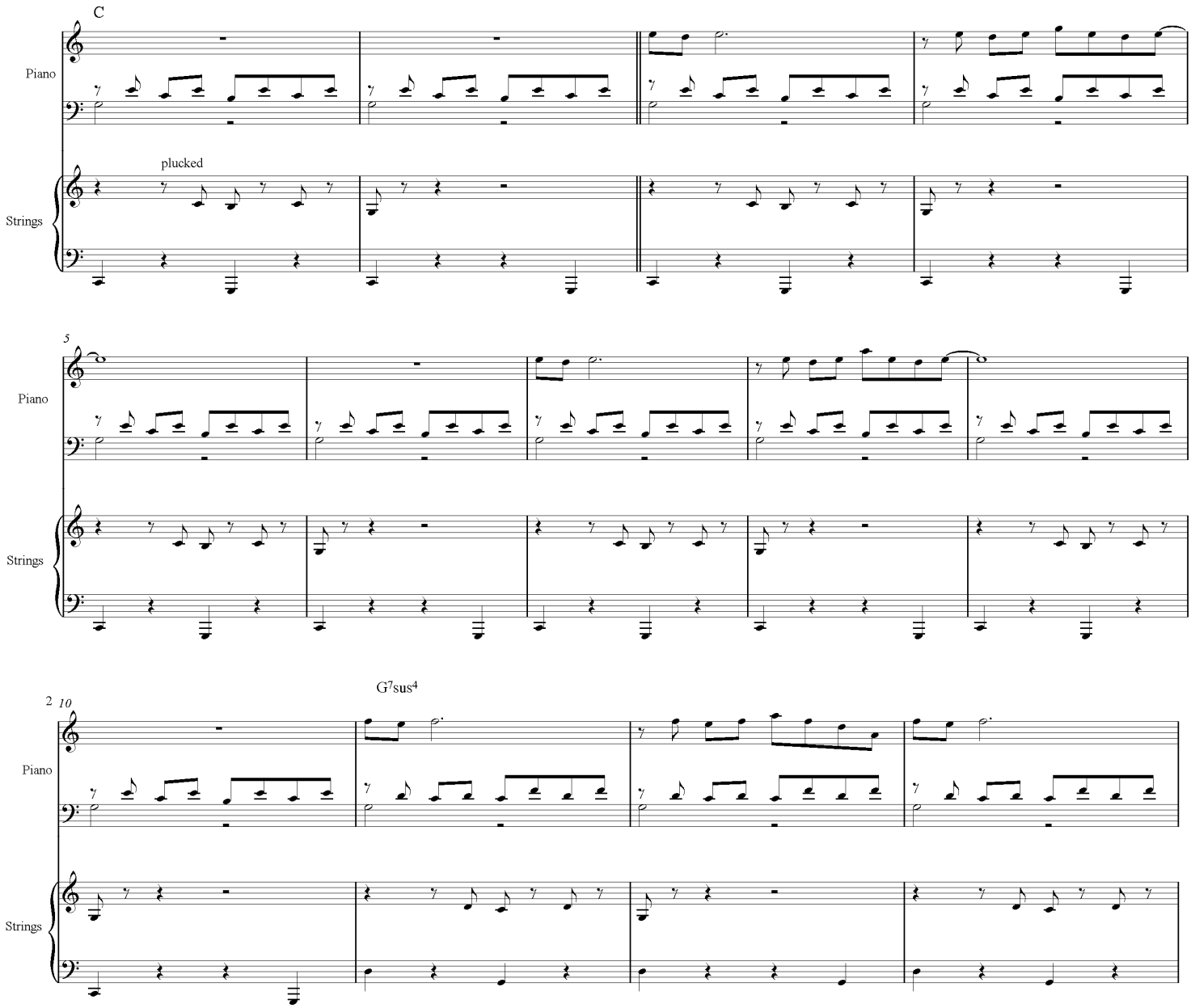
The King's Speech (Alexandre Desplat)

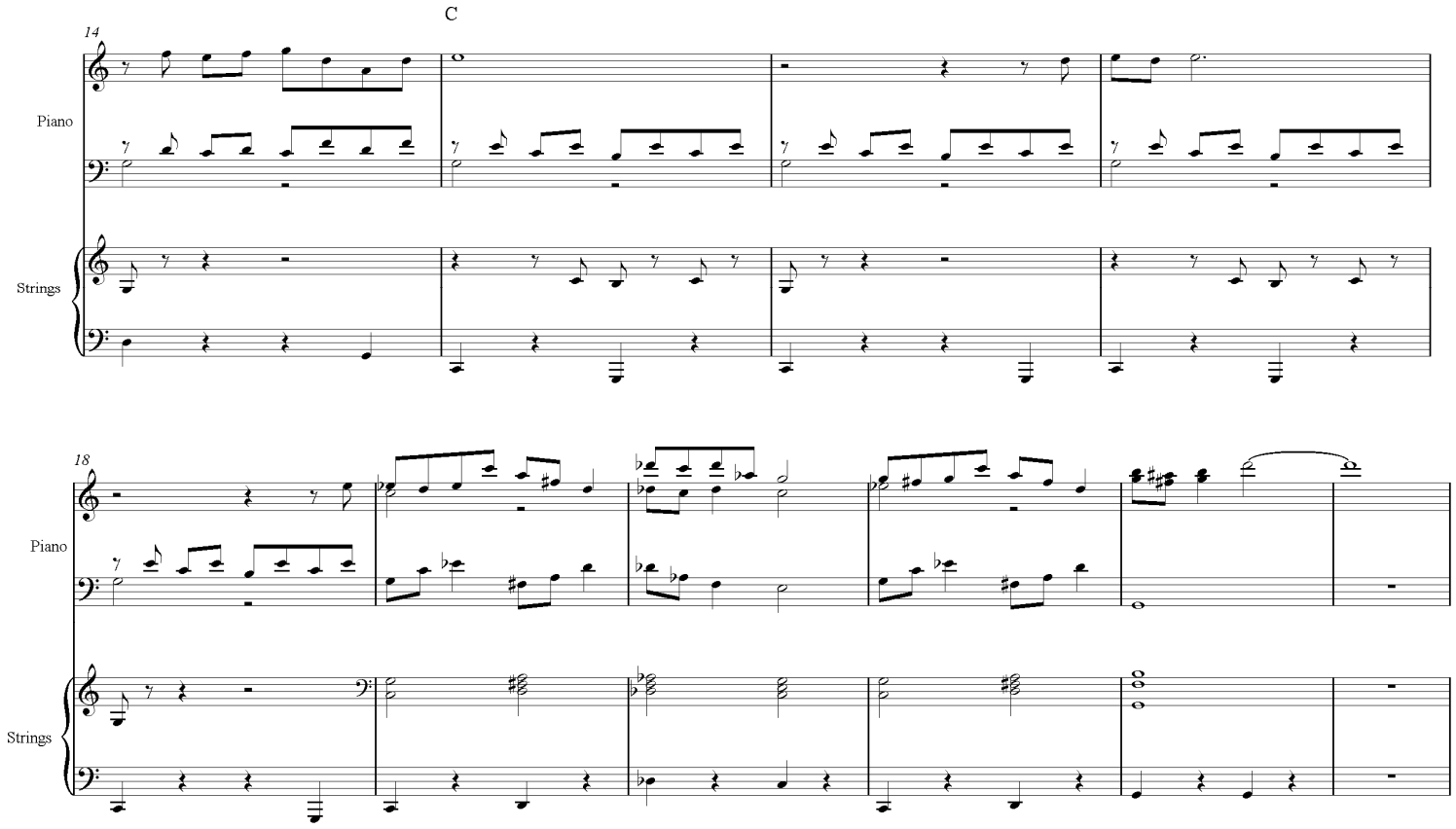
The King's Speech is a British historical drama starring Colin Firth, who plays King George VI. In order to cope with a stammer, the King sees unconventional Australian speech therapist Lionel Logue. In many ways the film is only about the King's speech problems on a surface level; on a deeper and perhaps more subtle level the film addresses social issues of class distinction and also examines character and relationship, displaying warmth and humanity along the way. The *British Stammering Association* congratulated the film makers on their 'realistic depiction of the frustration and the fear of speaking faced by people who stammer on a daily basis'. The King and the speech therapist eventually become friends, and after his brother abdicates the throne, the new King relies on Logue to help him make his first wartime radio broadcast on Britain's declaration of war on Germany in 1939. In a film about a man struggling to articulate himself, composer Alexandre Desplat was wary of overshadowing the representation of the main elements of drama. "This is a film about the sound of the voice", he said. The score mostly features strings and piano with the occasional addition of oboe and harp. To create a 'dated' sound some parts of the score were recorded on old equipment. Desplat wanted a score that would mirror, rather than amplify, the drama of the story. He said, when interviewed for the *LA Times Pop and Hiss Music Blog*: "This man cannot speak. It's not only because of his handicap, but he cannot articulate his pain. The music must respect the dramaturgy. I don't want to overwhelm everything with music." [Nov 26, 2010]. The score is perhaps best understood in terms of the track entitled 'The King's Speech'. This piece sums up the emotional complexion of the film insofar as it incorporates beautifully and sensitively some of the lighter, subtle and gently comic sentiments, melancholy overtones and absurdities inherent in the film's story.

Fig.19

One of the film's publicity pictures was particularly effective in visually articulating and distilling the film's character. It showed a nervous and uncomfortable King (Colin Firth), a cheeky, impish and rather 'snooty' Queen (Helena Bonham Carter) and a slightly mischievous-looking Lionel Logue (Geoffrey Rush). A picture paints a thousand words but equally Alexandre Desplat's cue 'The King's Speech' manages to perfectly encapsulate in music what the poster says about the film. We therefore have a true story, transformed into a film drama, condensed into a poster an distilled into music.

Fig.20 *Audio – 'The King's Speech'*





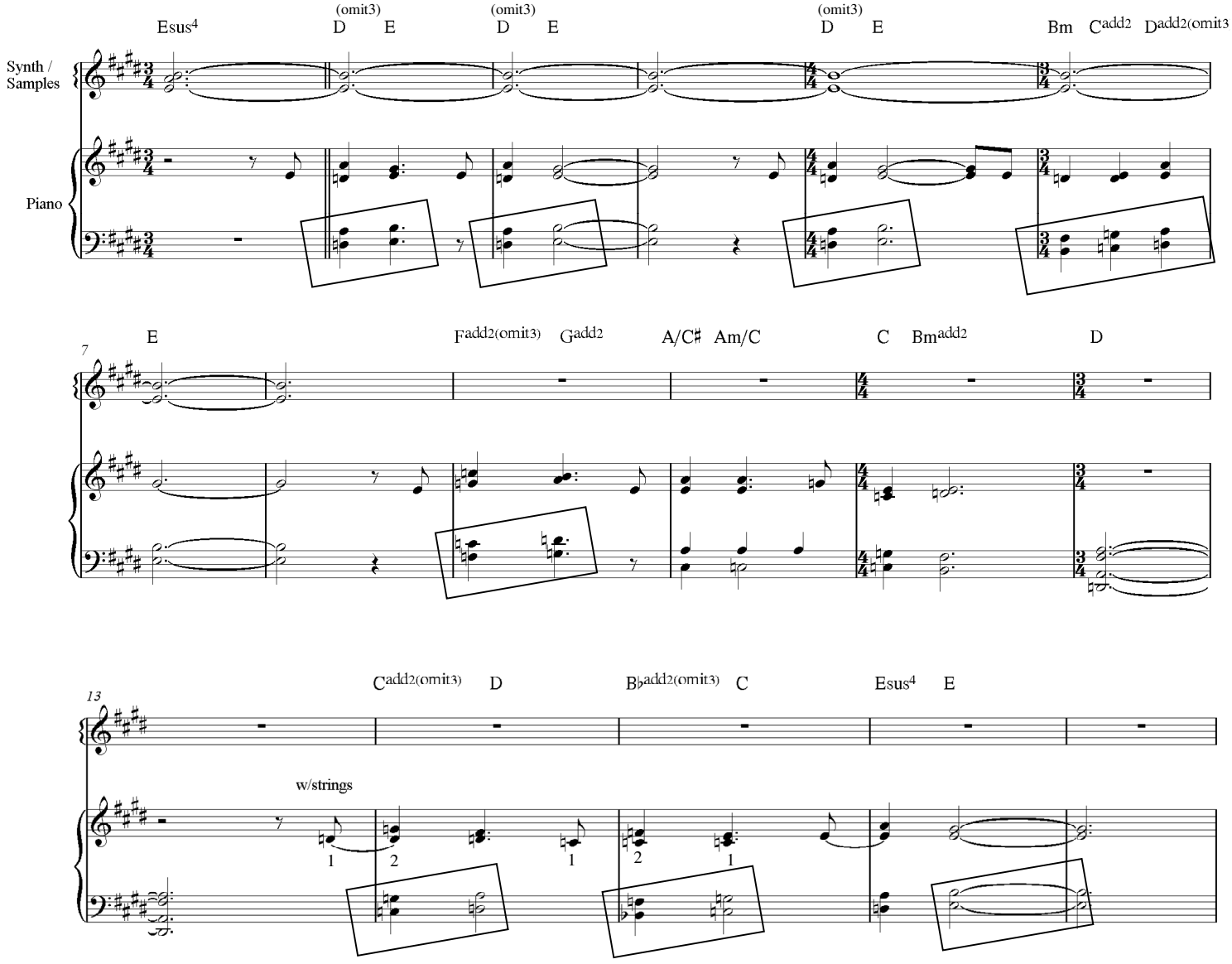
As we have learned elsewhere, the major or minor 3rd are 'descriptive' intervals which literally 'colour' chords. Without the 3rd a chord tends to be bare and devoid of warmth. I remind readers of this basic fact because the theme makes good and disproportionate use of the 3rd throughout the piece, utilizing it as an emotional gesture. The theme is texturally soft but rhythmically lively. It's playful but gentle; melancholic but contented. The melodic line is simple and unassuming. The most prominent and alluring characteristic of the piece is the left-hand quaver piano line which comes virtually every bar: the constant, repetitive, almost Baroque-esque line states the maj3rd, root and the maj 7th which gives constant compelling colour and emotion. The simple right-hand melody line, slower-paced, states the maj3rd prominently creating a piece whose emotion might be summed up as possessing an enchanting vivid simplicity. A little more obscurely, there is a faint whiff of Em on beat 3 of every bar, right up to bar ten. This almost inaudible, faint suggestion is created by the melody note of E and the left-hand B quaver note. This is not entirely dissimilar to Zimmer's interplay between the Am and C6 (in *Pacific Heights*) in that it very subtly shaves the edges of the chords making them more open and fractionally less certain.

Revolutionary Road *End titles* (Thomas Newman)

Some have suggested that *Revolutionary Road* is in many ways a repeat of *American Beauty* in that it is a strong critique of the soulless American suburbs; a story of the American Dream 'gone wrong' and an indictment of the empty context of many suburban lives. Kirk Honeycutt of *The Hollywood Reporter* said "once more, the suburbs are well-upholstered nightmares and its denizens clueless". On a surface level *Revolutionary Road* is a damning autopsy of a marriage on the rocks but the subtext is loud and clear.

There is no attempt in Newman's end titles music to 'play the period'; his music, as with many of his scores, is texturally and harmonically at odds with what the period might suggest. This is the real power of his music; it juxtaposes often formulaic situations with subtle harmonic nuances.

Fig.21 *Audio 'Revolutionary Road (End Titles)'* -



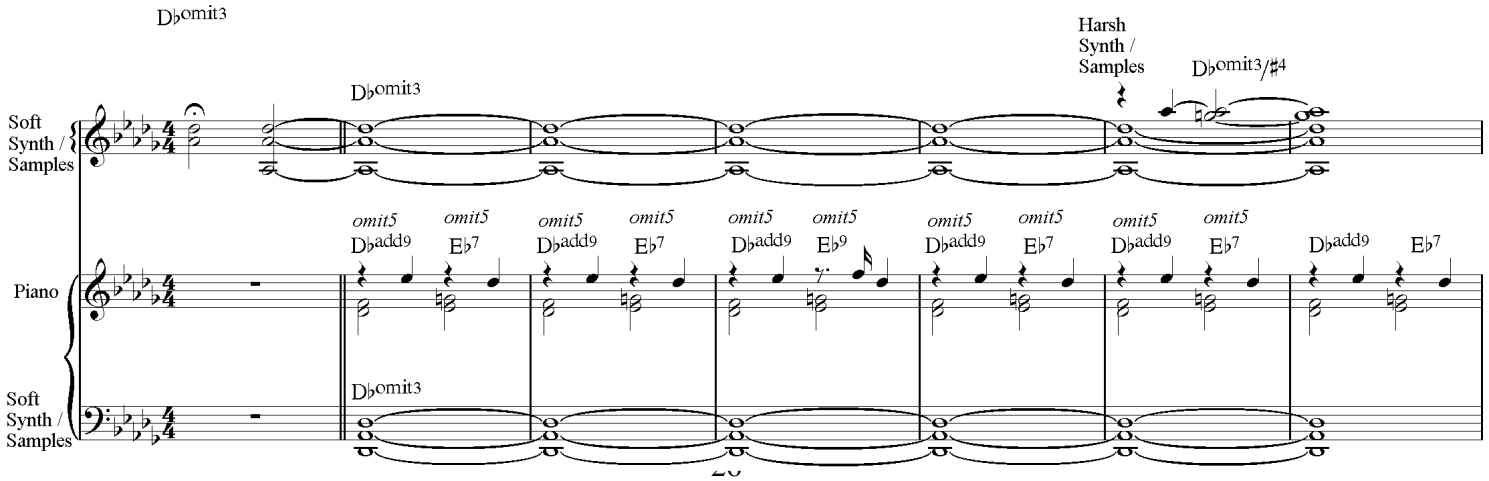
One look at the chord symbols which accompany this piece tells us that it is full of harmonic embellishments. Newman's piano writing tends often to be a combination of, on the one hand (quite literally) bare sparseness and squareness (plenty of 5ths and 'omit3' chords) and on the other hand, colourful extensions. Delivered, as these are, on heavily reverbed piano, what Newman exposes are the sonorities that are generated when these chords bleed in and out of each other. The sequence in bar two (Domit3 to E) possesses contrary motion and the effortless conclusion of a bare chord resolving to a full chord. As we have discussed elsewhere, whenever we hear most chords we tend to rationalise them in context the chords that came before (whether it's immediately before or a few bars before); the way we hear harmony is rarely merely a product of 'now'. The relationships and reactions between chords are what help us rationalise, understand and enjoy music. Indeed we could go further and say that harmony itself is simply the result of *reaction*. The beauty and effectiveness of harmony is never created in a vacuum; we hear the full E chord (beat 2, bar two) in context of the less full D chord. Newman exaggerates this process by the subtle method of the delivery and by exaggerating the sonority by using reverb.

Bar six is another good example of the effectiveness of Newman's writing; as with 'Paper Bag' – the iconic, enchanting and much emulated track from *American Beauty* - the left hand has three successive groups of bare fifths whilst the right hand contains extensions, in this case add2s. Also the first D note we hear in bar six functions as a min3rd whereas the second D note functions as the add2; this gives us one note with a singular sonic identity but an evolving harmonic context, which lessens and softens the potential tedium of a Bm-C chord change, lending the exchange colour. A similar exchange happens in bar nine where we have the slightly skewed 'square' sounding F chord (bare 5th on the left hand and bare 4th on the right hand) without the warmth of the 3rd but *with* the add2, resolving to the Gadd2 chord; the point being firstly the contrary motion of the movement and the reaction between the bare chord and the warmth of the subsequent chord which contains the warm maj3rd. Bars fourteen and fifteen offer the sense of real harmonic improbability and surprise; the leading D note (the last tied quaver of bar thirteen) changes context across the bar line from a root to the add2 of the C chord in bar fourteen (highlighted); the D note (add2) then resolves to represent the root of a D chord (beat 2, bar fourteen) despite the note itself not changing.

Changing the intervallic context *not* the note is a device which is as old as music itself; in fact it is one of *the* devices that constitute what music is and how it communicates; but it is particularly effective when the context changes from or to an extension note, such as in this case, the add2. The same manoeuvre happens again in bar fifteen. Both bars fourteen and fifteen have the usual bare and square left hand accompaniment.

The contrast and juxtaposing of 'square harmony' and the colour of soft extensions is what colours Thomas Newman's expressive and communicative piano music in many of his films. A small excerpt of the beginning of a track entitled 'A Bit Whimsical', from the same movie, is transcribed below.

Fig.22 *Audio 'A Bit Whimsical' - 00.06*

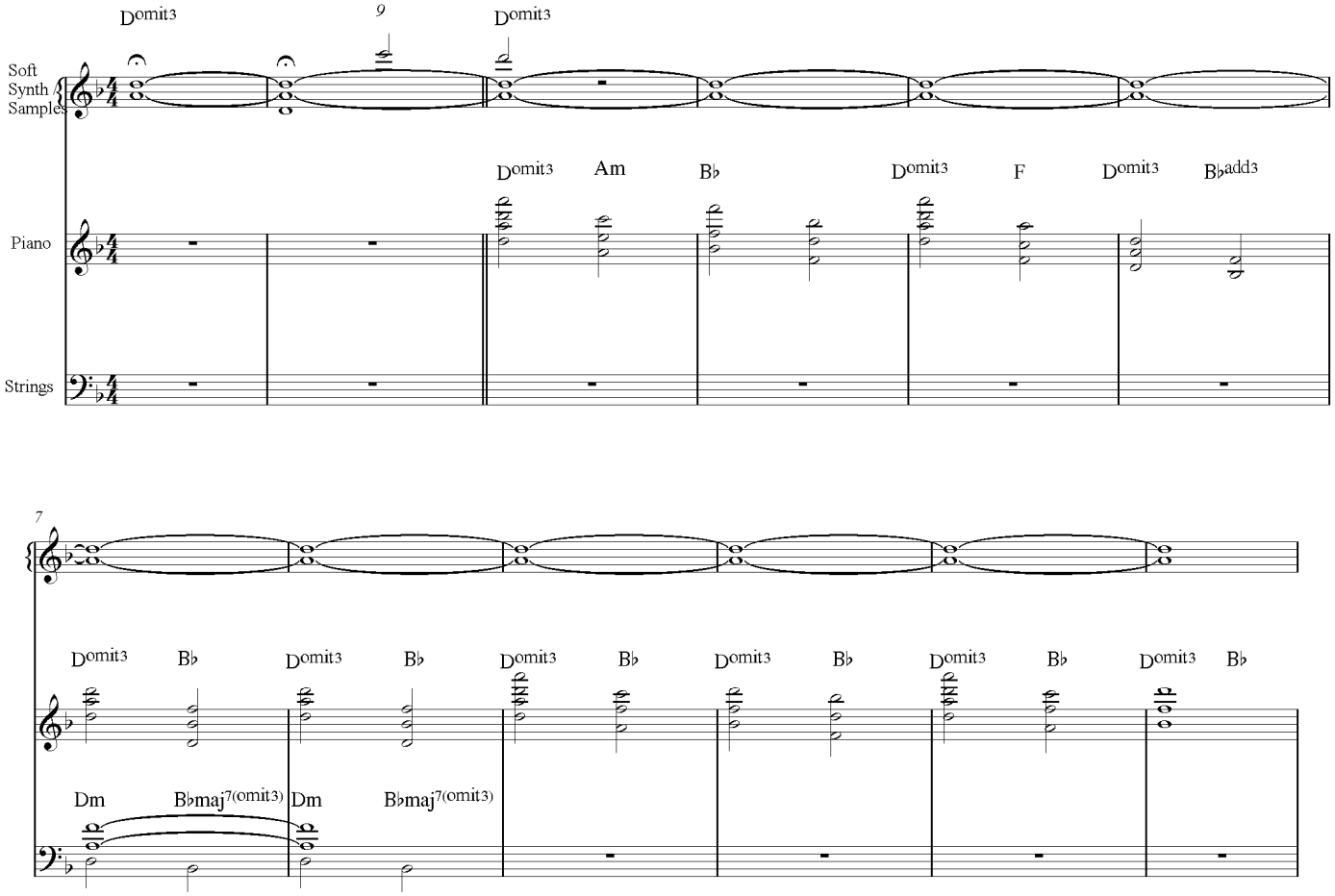


Most of Newman's piano ideas are accompanied by soft, subtle and ambient sound textures. Sometimes (as in his piece 'Road to Perdition' from the movie of the same name (analysed in *How Film & TV Music Communicate*, volume 1, chapter 6, *The Deft Touch of Subtlety*) the accompanying sampled sound textures will state a different chord to the one implied by the piano, thus creating a subtle, refined polytonality. As we can see from the transcription and by listening to the track, 'A Bit Whimsical' (fig.22) is replete with Newman-esque 'broken harmony'; there are incomplete harmonies in the top and bottom stave synth voicing (Db minus the maj3rd). The subtle friction between the Db synth voicings and the broken Eb chords in the piano (bar two onwards) create a slightly mesmerising effect. The piano line creates a kind of vague, faraway, dreamy feel because essentially it delivers broken harmonies over a root-5th-root synth base. There is also a palpable contrary motion between the top piano line and the accompanying piano chords (both on the middle stave).

The Iron Lady (Thomas Newman)

Another good example of Newman's style is to be found in his score for the political biopic *The Iron Lady.*

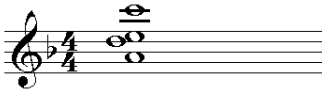
Fig.23 *Audio- 2 'Were you happy?' - 00.06 Movie 01.28.16*



Many of Newman's most evocative pieces begin with the soft textures of his trademark bare fifths sampled sound, to which he adds piano. If we look at the opening bar (fig.23) we see the top stave has a permanent

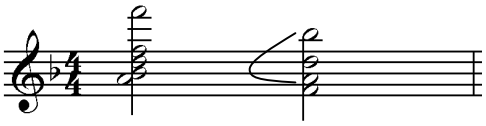
stark bare 5th interval running throughout the cue, causing brief and subtle harmonic tensions as the piano chords evolve. Do we rationalise the sound in context of the piano chords or in context of the bare 5th running through the piece, supplied by the soft sampled textures? In truth we probably do both, which is what generates the slightly mystical 'faraway' feel.

Fig.24



The second piano chord of bar three of fig.23 is an open voiced Am. The D note from the bare 5th harmony on the top stave 'becomes' the 11th of the Am chord; the distinctive Newman haunting piano reverb adds the textural context and more sonority, which completes the picture. The two chords seen as one (left, fig.24) give an accurate composite picture of the harmony created by *both* chords. The points of tension are the 7th interval between the D and the top C and the maj2nd interval between the D and E notes.

Fig.25

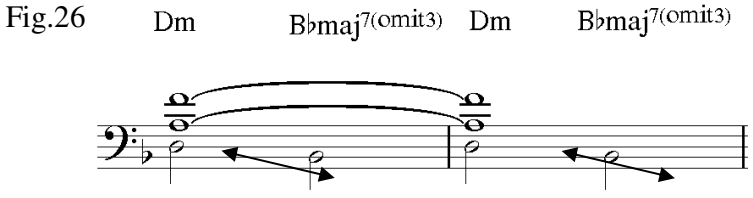


Beats two/three of bar four (of fig.23) offers us slightly more tension; the piano plays an open voiced Bb chord inverted over the F, but if we superimpose the A and D notes from the synth chord above to form a composite picture (beats two/three, left, fig.25) we can see the main tension is between the Bb at the top and the low A at the bottom (beats 3 and 4).

The interval between the A at the bottom of the voicing and the Bb at the top is a flattened 9th. We respond to this dissonance, but given that the chord is filled by other harmonies, what we really respond to is the uncomfortable feeling of the polyharmony created by the bottom three notes (F, A and D) which constitute a Dm chord, and the top two notes (D and Bb) which suggest a Bb chord.

Physical movement in the strings in bar seven and eight (lower stave, fig.23) is quite minimal too; the top two notes (A and F) remain static throughout with just the lower note moving from D to Bb.
The A and F remain constant as notes but 'intervallically' they move from 5th and min3rd (of Dm) to maj7th and 5th (of Bb). The lack of a D note (which would have been the maj3) in the Bbma7 chord exposes and italicises the slight tension inherent in the maj7 interval (between the low Bb and the A above). These subtle touches of tension create emotion.

Fig.26

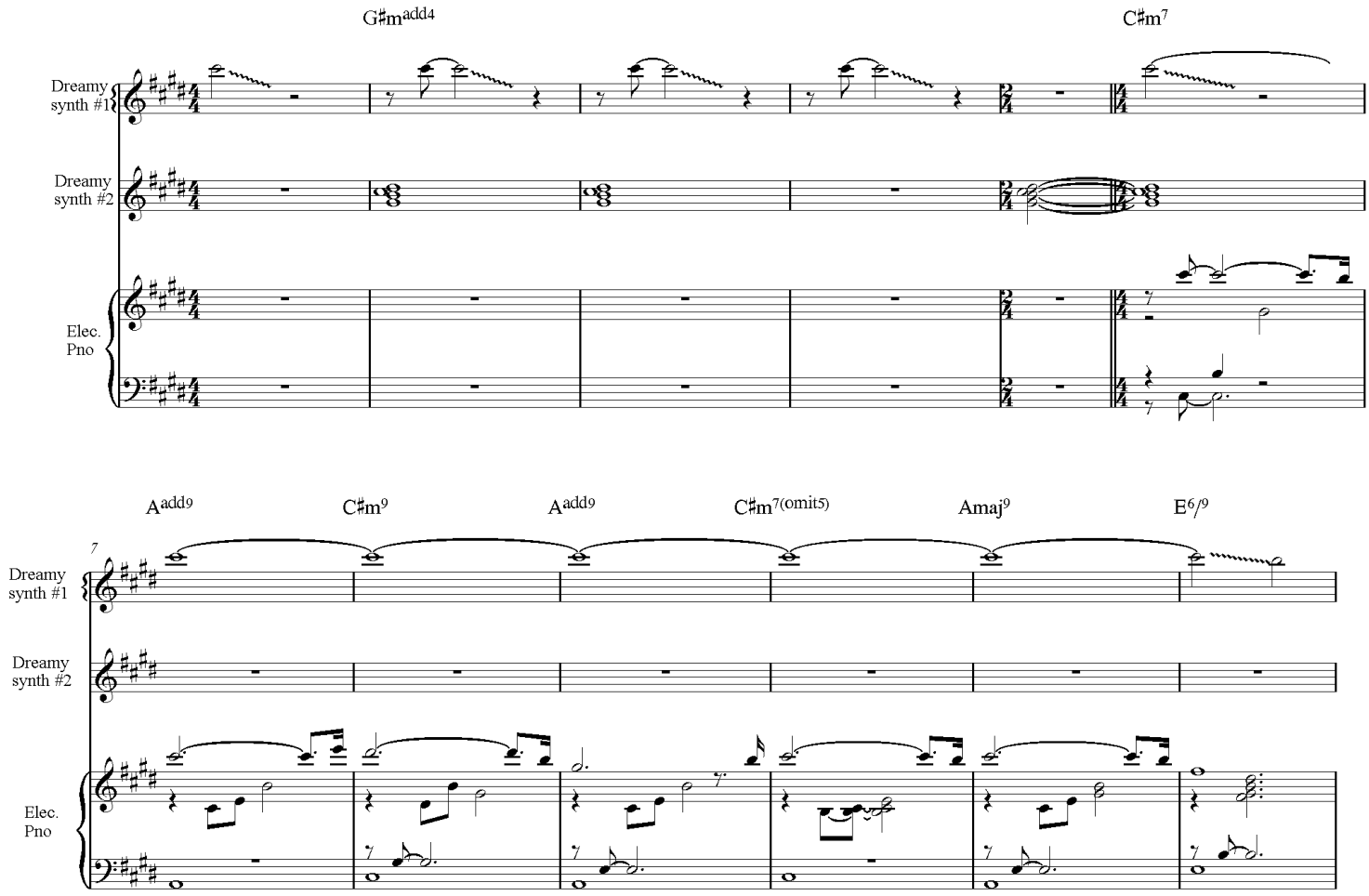


Chariots of Fire (Vangelis)

Another piece which has a vague, faraway, dreamy feel as a result of synthesized textures and the careful manipulation of harmony and extensions is 'Abraham's Theme' from *Chariots of Fire*.

The 'dreamy synth' sound (2nd stave) in bar two states a G#m (add4) chord. The chord has a slightly hypnotic feel to it and this is obviously partly because of the specific sonic quality and the texture of the sound. But looking beyond the sound to the chord itself, there are two distinct reasons which contribute to the wistful, faraway feel. Firstly the addition of the 4th creates a cluster which consists of three notes all a tone apart (B, C# and D#) but secondly although the chord has a specific identity and therefore a specific name - G#m (add4) it offers us the tiniest of aural 'nods' two other possible chords:

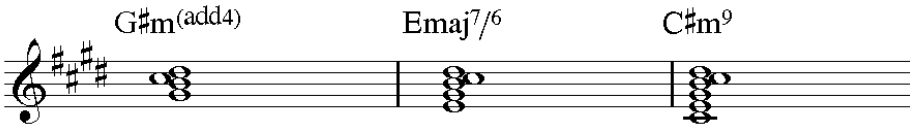
Fig.27 *Audio 'Abraham's Theme' - 00.06*



The notes (G#, B, C# and D#) could, theoretically, also constitute the maj3rd, 5th, 6th and maj7th of an Emaj7/6 (even though the E note isn't there) *and* they could even, at a stretch, suggest the 5th, 7th, octave and 9th of a C#m9 even though the C# (root) and E (min3rd) aren't stated. If one is talking theoretically then anything can be anything, but the point about what possibilities the four notes in bar two of 'Abraham's Theme' *might* constitute is that they go beyond theory and into reality.

If you played the four notes to a group of listeners, one reason for the quality and strangeness of the chord is precisely because it is communicating as more than one chordal reality; listeners neither know nor care why this chord sounds like it does, but composers need to understand the geography of harmony to realise why certain groups of notes communicate a dreamy, vague sound.

Fig.28

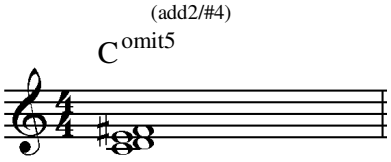


Chord symbols are not just names we give to describe harmony; they are names we give to describe the way something sounds and 'feels'.

If there are three ways of theoretically describing these groups of notes then there are essentially three subtly different ways of hearing them. Cluster chords are more susceptible to interpretation because their meaning is made slightly more vague, ambiguous and nebulous *because* of the closeness of the notes/intervals. Chords are traditionally constructed from a combination of notes and gaps; sounds and spaces. Without sufficient space in between, notes become nothing but harmonic energy. The gaps are the context. An interval is something we cannot independently hear; it is notional and theoretical without either end of the interval being stated.

Also in this piece Vangelis is very precise in terms of which notes the electric piano states. The chord in bars seven and nine is an Aadd9 not an A*maj9*. An Amaj9 implies the inclusion of the maj7th but the Aadd9 is distinctive not just for what's in it, but for what's *not* in it. The maj7 (G#) would create more of a 'cheesy', jazzy feel. Vangelis uses a broken chord in bar ten (the C#m7 minus the 5th). These slight, almost imperceptible nuances are not peculiarities of performance; they are deliberate. Every interval counts; nothing is here by *coincidence*. Film music works by design, not by accident. If we play three notes, all a semitone apart, we find it impossible to ascertain a specific identity; the frequencies are too close together and because of our diet of tonal music we default to a presumption of the lower note being the root; but even then we struggle to rationalise any discernible chord shape or aural context. By contrast if we space notes out in a 'normal' way this gives most chords an unequivocal uniqueness; a distinct personality. I say this because if we try somewhere in between absoluteness and indistinct abstraction, by spreading, for example, four notes out a tone apart (below) we arrive somewhere in the middle of these two extremes by creating harmonic groupings which are *almost* identifiable and *nearly* recognisable.

Fig.29

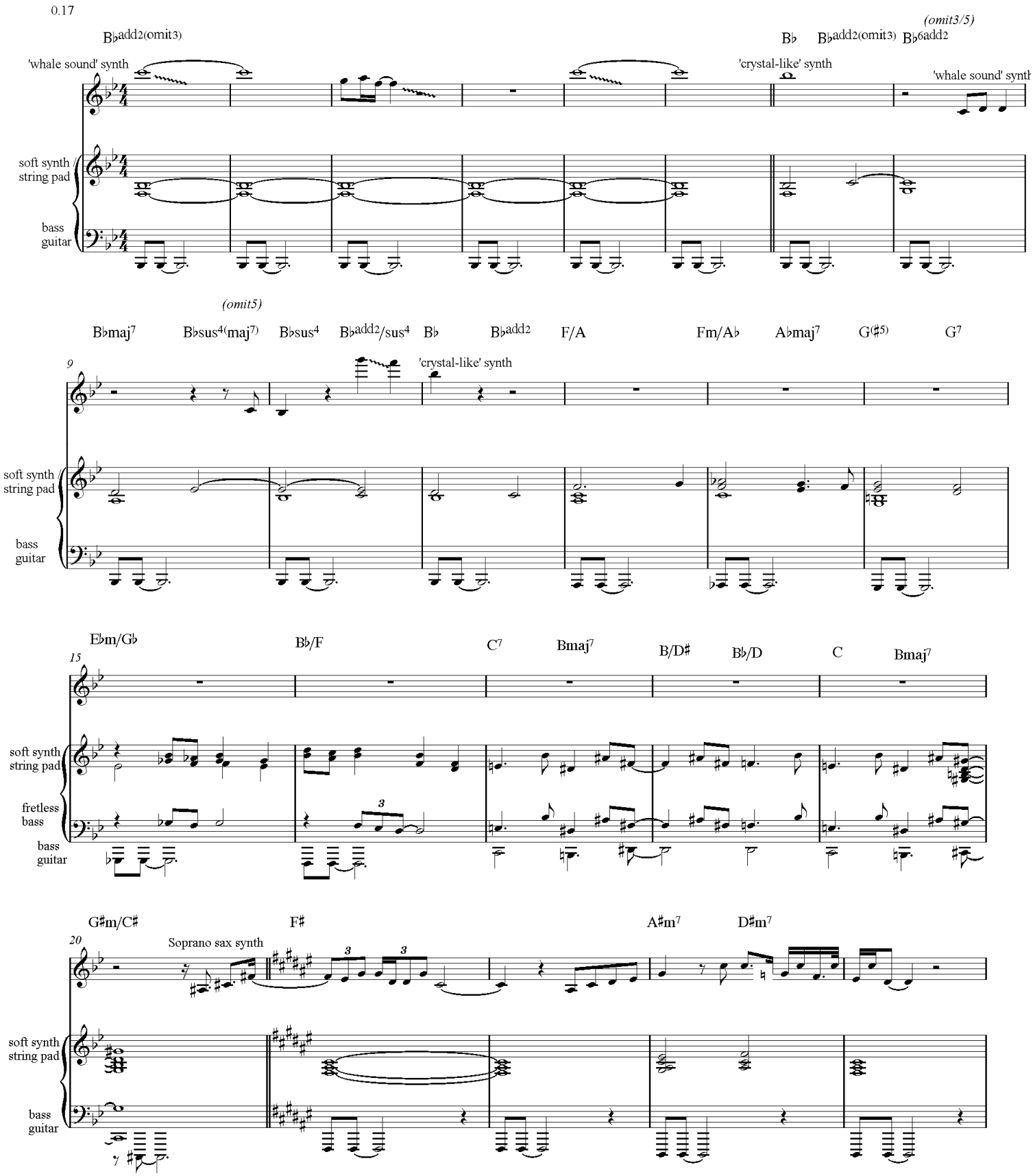


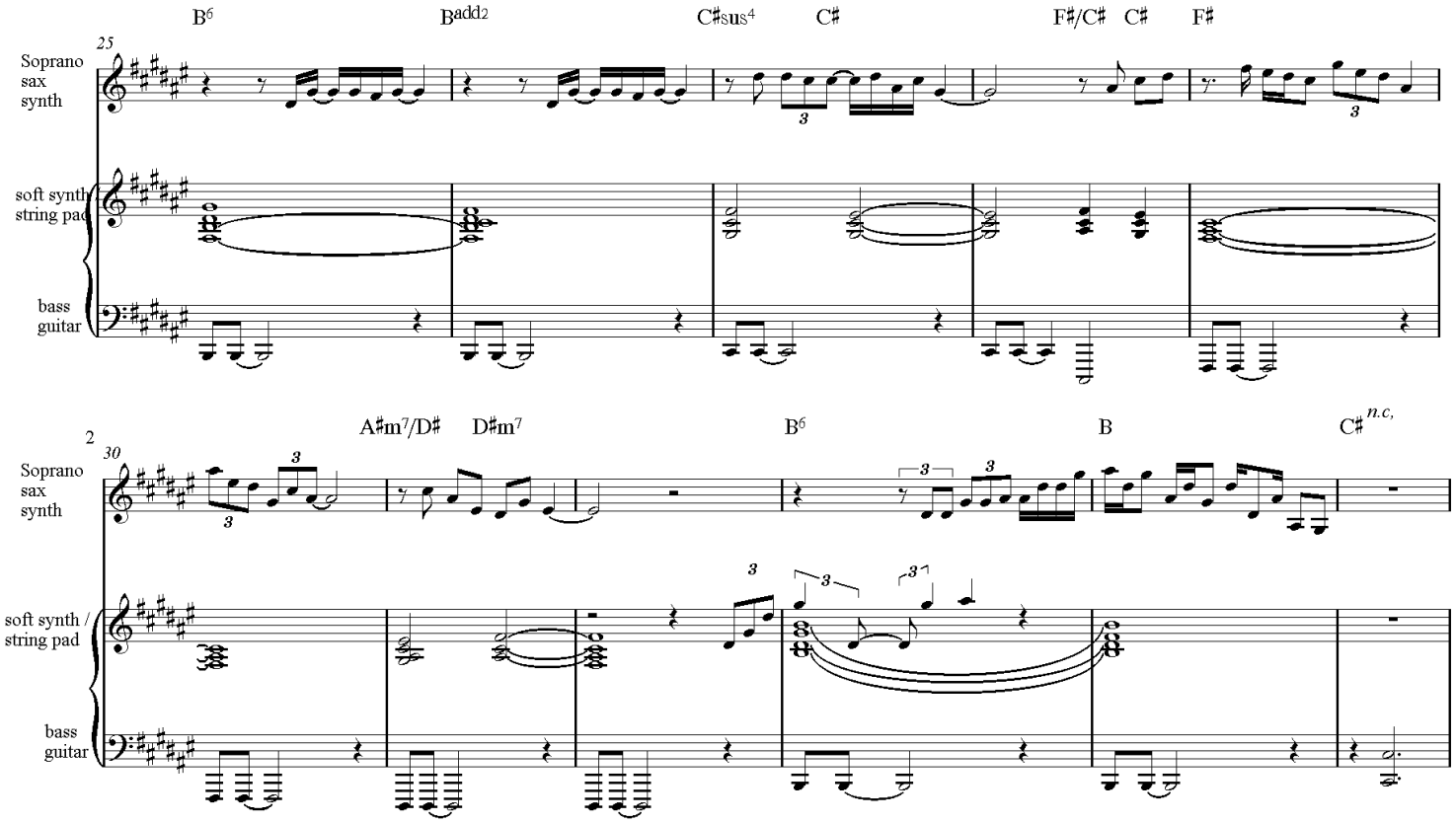
What the chord to the left is, in reality, is a chord of C and D, both without fifths. The inclusion of fifths would have created a semitone clash.

Le Grand Bleu (Eric Serra)

The Big Blue (to give it its English title) is a French English-language film and is a story whose surface level mainly centres round Jacques Mayol, a 'free diver' (a sport where people dive as deep as they can with a single breath). The film has serious subtexts, including romance, life, and how we deal with problems from our past. When we think of music's ability to utterly transfix us or to be so wonderfully, vividly and specifically descriptive and communicative, we may struggle to find a better example than Eric Serra's music for *The Big Blue.* The opening title sequence, which features parts of 'The Big Blue Overture', is arguably one of the best examples of music which can, in the same breath, be soothing, tranquil and calming but also dramatic. The piece is relaxing but as a listener you are definitely aware of real dramatic tension. The tensions are sometimes delivered so subtly and by such diverse and occasionally oblique methods that listeners would have problems placing the impact to a specific emotion. Parts of the overture are entrancing, mesmerizing but also acutely communicative, dramatically.

Fig.30 *Audio 'The Big Blue Overture' - 00.17 Movie - 00.00.26*

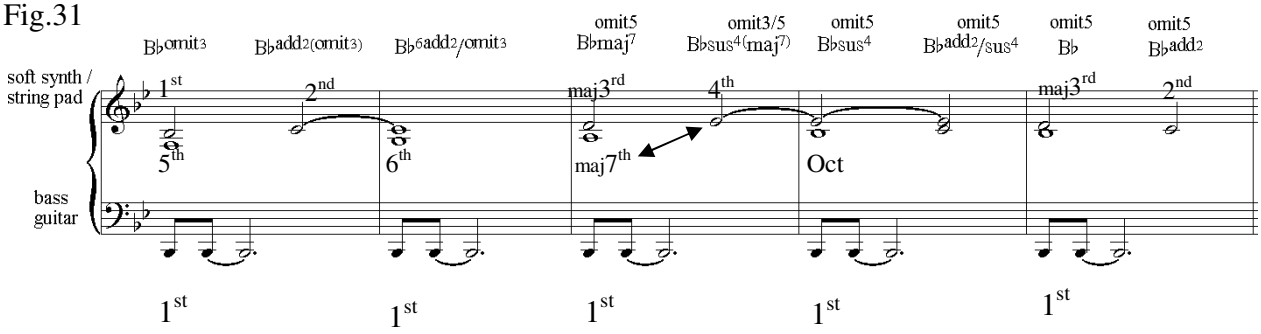




Eric Serra's captivating and enchanting 'overture' music for *The Big Blue* is a triumph from beginning to end in terms of the depths of emotion and feeling it creates. Certainly much of the success is down to the excellent choice of distinctive synth sounds; the sharp sparkling crystal-like sound, the sound which is designed to be suggestive of whale sound, the classic 80s ambient analogue string sound and the distinctive 'twangy' bass sound. But to presume it's even *mostly* down to the sound or texture or instruments is to miss the point and deny that harmony itself creates emotion. The very first notes stated by the 'whale sound synth' are the add2 (bar one-two and five-six) and the maj7 (bar three); this establishes a fairly soft, relaxed and mildly romantic feel. As in many of the pieces analysed we find that much of the colour is derived, at least partly, from a combination of broken or incomplete chords (no 3rd or no 5th) but *with* extensions / embellishments such as add2/9, maj7 etc. With this in mind the chords up to bar seven of fig.30 have no defining 3rd. This is important because the main harmonic characteristic of a 2nd is the way in which it reacts with the 3rd. The 3rd is the main reason the 2nd sounds as it does; if we have no 3rd then much of traditional effect of the 2nd is implied and suggested, not *actual*.

Perhaps the most important and effective part of this piece is in the lengthy but excellent preparatory work which delivers the melody when it finally arrives on synth Soprano sax just before bar twenty. The build-up is beautifully stretched out over a long period and involving so many emotive chord changes and 'false dawns' that the sense of relief when the Sax arrives almost becomes part of the emotional fabric of what the theme *is*. As I said earlier extensions such as add2, 6th, maj7th rely on primary intervals being present for much of their colour; their colour, like all intervals, is reactionary and dependent on harmonic interaction. The first palpable part of the build-up happens in bar seven (of fig.30, transcribed separately below, fig.31) where the synth string two-part harmony manages to strike several key extensions and intervals, all based on a partial Bb chord. Thus the Bb chords in bars seven to eleven are 'extension heavy' – a term given to chords which have more extensions that primary intervals and where extensions therefore have disproportionate power.

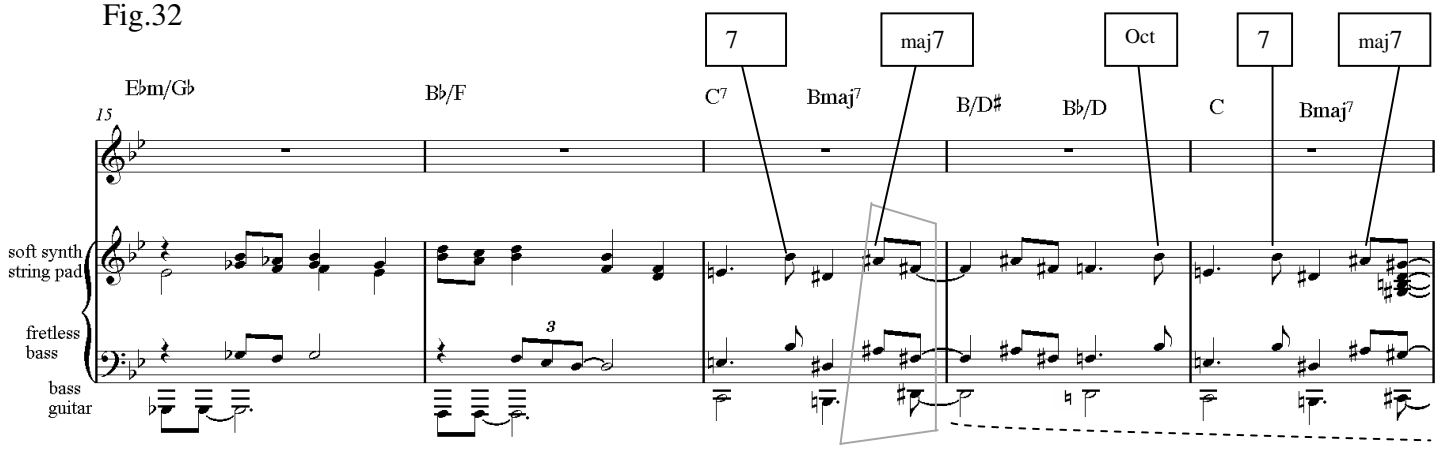
Fig.31



Thanks to the top stave two-part harmony, the character and flavour evolves throughout this sequence, sometimes midway through the bar, causing subtle changes. Intervals such as the 2nd, 4th, 6th and maj7th are more exposed due to the comparative lack of support from primary intervals (3rd, 5th). There is an effective, square-sounding, parallel movement between the G and C (6th/2nd) in bar 2 (of fig.31) and the A and D (maj3rd and maj7th in bar three. In particular beats 3/4 of bar three of fig.31 are almost completely extension-heavy with a peculiar combination of the root plus the maj7 (A) and 4th (Eb) minus the maj3rd creating odd sounding harmony. The reason for the oddness is that it infers polytonality; if we isolate the maj7 (A) and 4th (Eb) in bar three, they 'feel' more like the maj3rd and 7th of an F7 chord (minus the 5th) over a Bb bass. Once again we're back to chords having more than one way of being described and therefore more than one way of sounding or 'feeling'.

The ascending sensation from bar twelve to bar sixteen (fig.30) is palpable; the bass line falls effortlessly thanks to some well-placed inversions; these are bolstered by the top line copying the bass (bars thirteen and fourteen), accenting the downward slide. There are other subtleties too: the Eb and G (5th and maj7of the Abmaj7 chord in bar thirteen) stay where they are and *become* the #5 and octave of the G chord; with regard to the Eb note we enjoy the 'audio illusion' of a substantial and emphatic chord change (from Abmaj7 to G) being made to sound smaller and smoother thanks to less notes actually moving. Bars seventeen and eighteen of fig.30 are interesting and colourful thanks to a clever use of the Bb melody note (functioning as a 7th in the C7 chord) then 'becoming' an A# and functioning as a maj7 (of the B chord) then becoming a Bb again, functioning as an octave of the Bb/D chord. The point is that we hear the same note in differing intervallic contexts which differ only by one degree (7th, maj7th, octave) but which significantly alter the perception and feel of the note. A similar sequence happens again in bar nineteen. This manoeuvre creates a slightly skewed perspective for a listener and thus causes interest and excitement. The last two quaver melody notes of bar seventeen (A# down to the F#) are coupled with a contrary harmonic bass movement *upward*, creating a delightful contrary motion (this section is transcribed again below, fig.32)

Fig.32

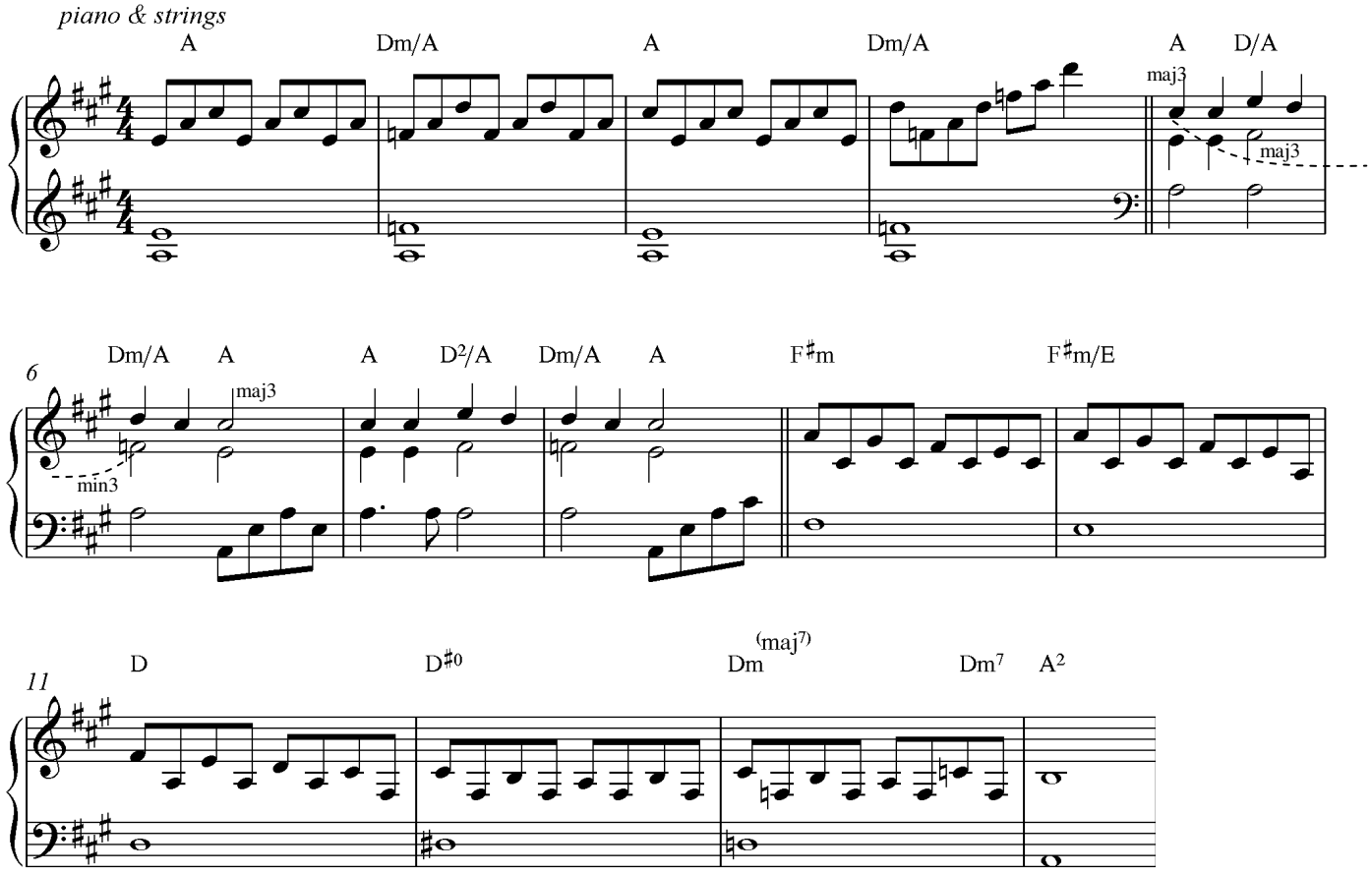


In fact the particular sequence of chords from bars eighteen to nineteen are extremely cleverly written in that two inverted chords (B/D# followed by Bb/D) resolving to a root-positioned C chord ensure a consistently downward bass arc.

Love Actually (Craig Armstrong)

Love Actually is a British rom-com where the screenplay delves into different aspects of love as shown through several separate stories all set during a frantic month before Christmas in London, involving a wide variety of individuals, many of whom turn out to be interlinked. The film received generally positive reviews in Britain, although Will Self said the opening voiceover was "the most grotesque and sick manipulation of a cinema audience's feelings that I've ever seen". Certainly one area where movie watchers actually *were* manipulated was in the way the accompanying soundtrack knew its target demographic and seized it by the throat. This was a shrewdly chosen body of great pop music. But the film couldn't and didn't survive on pop music alone; Craig Armstrong wrote some excellent and memorable music for the film, aspects of which we have analysed elsewhere. This time the 'Glasgow love theme' is analysed.

Fig.33 *Audio - Glasgow Love Theme 00.00*



As we have established elsewhere, the major or minor 3rd are particularly warm intervals. We call them 'descriptive' intervals because they quite literally 'describe' and 'colour' the chord distinctively as either minor or major. Without a 3rd interval chords can have a bare or suspended feel.

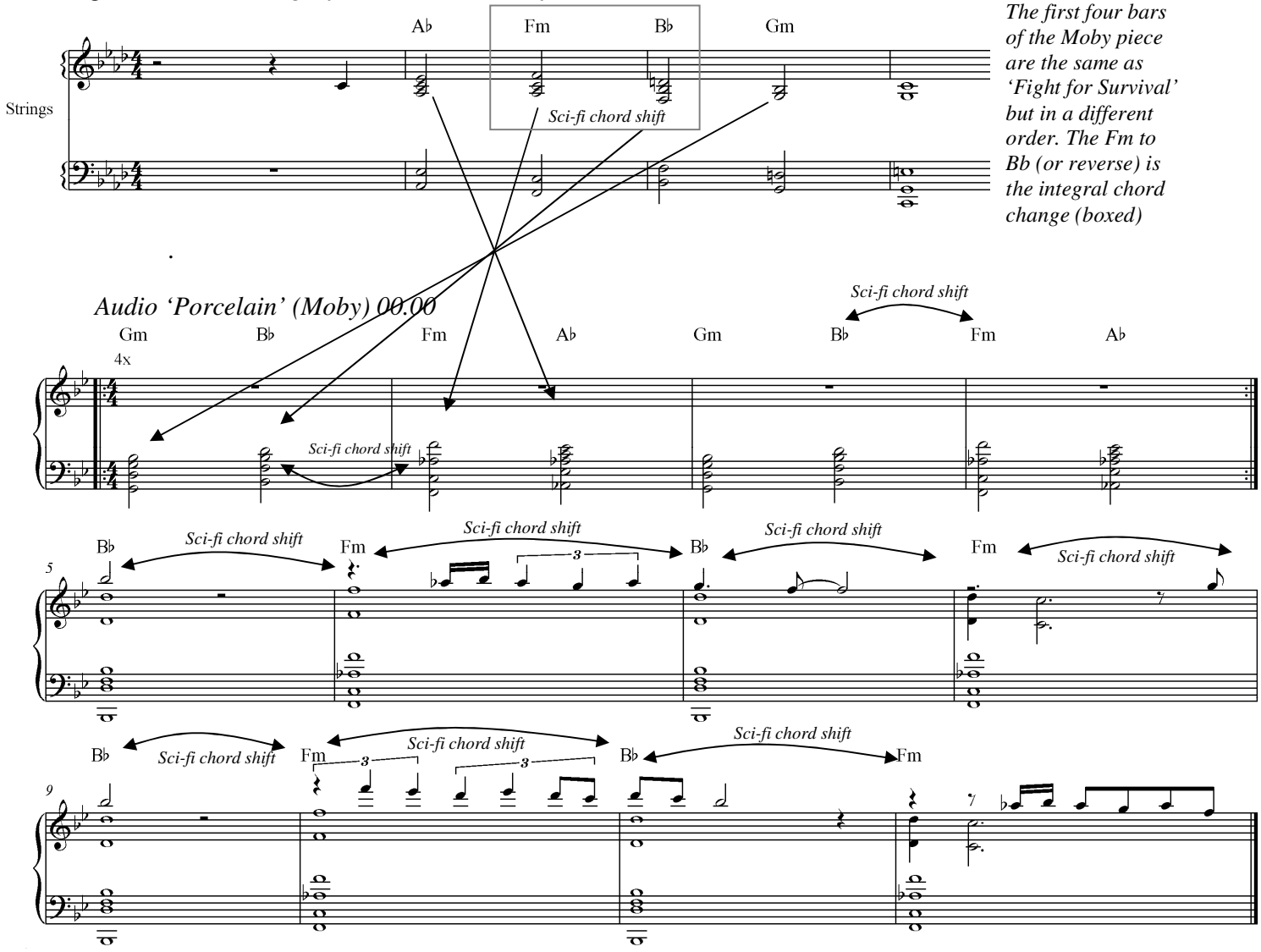
Using the maj3rd too much in a melody may 'overcook' a piece and overstate the case, emotionally. It can risk turning drama into melodrama. It can make a piece explicitly romantic and overly descriptive, not to mention repetitive and monotonous. But if we italicise the 3rd tactically and sensitively we can create a more subtle result which isn't as overtly romantic in flavour. If we look at Armstrong's piano line in bar five when the melody starts, although the 3rd is used a lot it is shared between the top line and the counterpoint underneath. In bar five (beats 1 and 2) we have an exposed maj3rd (C#) then the counterpoint underneath (beats 3 and 4) states the maj3rd again (this time an F# in the D chord). Bar six gives us the min3rd counterpoint (F) before the C# melody returns as the maj3rd. This is a routine but nevertheless clever way of ensuring the piece is dripping in emotion without placing the 3rd repeatedly on the same line (and note).

The slightly hypnotic quaver line from bar nine through to thirteen is effective in articulating a kind of meandering, entrancing feel. Partly this is because, if we look carefully, it is a five-bar phrase. Certainly the piano quaver line (copied by the strings) is slightly mesmerising but the central reason the phrase hypnotises is because it adheres to a length we don't expect. In terms of the whole quaver phrase from bar nine onwards, structurally and musically it is best rationalised as three bars (sixteen-eighteen) followed by two bars (nineteen-twenty). Musically this is how it 'ties up' and makes sense. When we listen for the first time we listen with expectation, with anticipation, with probability as our main guiding context. The fact that it doesn't seem to sit properly is what wrong-foots us and elongates the process. Normally when things don't go as we expect we are surprised, but when the surprise is on the back-end of bars of quavers the effect can be slightly different; surprise can become mild entrancement.

The Beach (Porcelain) *Moby/Ernest Gold*

The Beach is a 2000 adventure directed by Danny Boyle, filmed on the Thai island Koh Phi Phi. Richard, an American college student, travels to Southeast Asia for the summer. He meets a character called Daffy who reveals the existence of a beach paradise on a secret island. Richard finally finds the island. Things are indeed idyllic until others find the secret community and some are killed by guards protecting a marijuana farm which exists en route to the island. Richard witnesses their executions and retreats to the community to convince others to leave the island, believing that all their lives are now in danger. Like many great movies it exists on different levels; there is subtext and meaning everywhere. Many believe the story to be about the 'myth of paradise'; that there is no such thing. Others believe to be a commentary on how humanity is incapable of dealing with 'perfection' – i.e. does it really exist? Some commentators have even suggested that the beach is a metaphor (and thus a cautionary tale) about communism, suggesting that in human nature communism 'fails'. What the movie seems to suggest is that the strict rules and traditions that society holds dear are essential to give us balance so we won't destroy the system we live in: if we have perfection, inherently we destroy it. The Moby track 'Porcelain' contains pulsating electronically enhanced string samples, piano rhythms, and strange vocals. The chord sequence at the beginning is a reversed sample from a track entitled 'Fight for Survival' from the 1960 movie *Exodus,* composed by Ernest Gold, although this fact is sadly un-credited. The popularity of Moby's song, which wasn't written for the film, was enhanced by being featured in the film and on the soundtrack. Moby recalled to *Rolling Stone*: "Danny Boyle put it in the movie *The Beach*. He used the music so well in the movie". Some observers referred to Moby's track as sounding 'filmic'. Of course it sounds filmic; the main communicative harmonies (albeit reversed) were lifted from part of a *film score*. The film score in question was one of the earliest examples of the use (in film) of what we elsewhere refer to as the 'sci-fi chord change' (the exhilarating and uplifting nature of the chord change is a regular favourite in sci-fi and indeed many drama films).

Fig.34 *Audio - Fight for Survival (00.37, from Exodus)* Ernest Gold



The Moby piece is a celebration of how well the iconic filmic chord trick works. In the original Ernest Gold piece from *Exodus* the 'filmic' bit of the chord sequence is from the Fm to Bb. The sequence is used in 'Porcelain' and then the chord sequence (but not the sample) is repeated from where the haunting piano melody comes in on bar five. The Gm chord (in both pieces) has a particularly strong and specific texture which comes from the sound of the Bb note within the Gm chord.

The Truman Show *(Philip Glass / Burckhardt Dalowitz)*

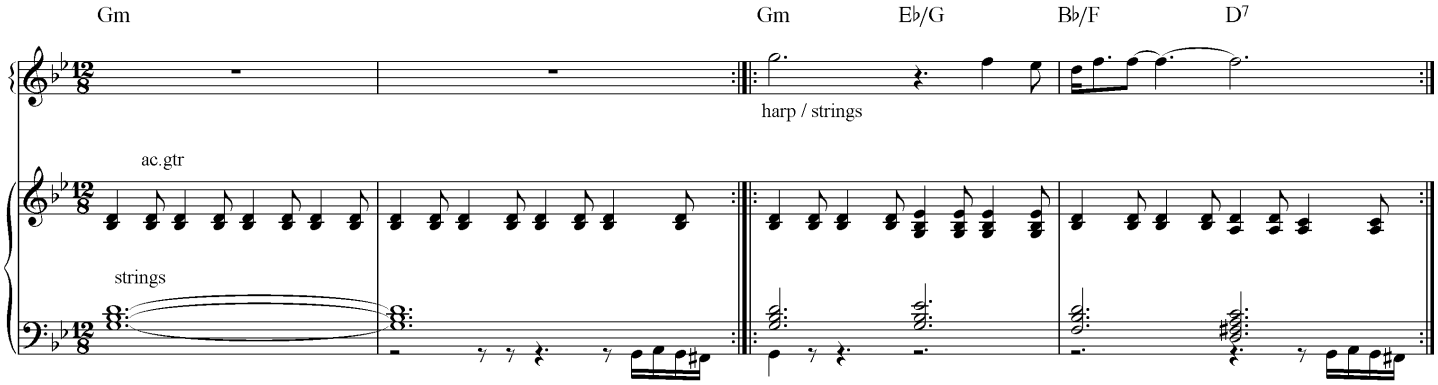
In 'The Truman Show' Truman is a man whose life is a fake; everyone in the world knows this except Truman himself. The place in which lives is contained within a big TV studio – one of the largest structures on earth, visible from space - with hidden cameras everywhere. The film is a 1998 American satirical comedy-drama film about the life of the world's best known TV star - a man who, until well into his adult life, is unaware that he is living in a constructed reality; a television show, broadcast 24-hours-a-day to billions of people across the globe.

The film exists on numerous levels but is essentially a simple cautionary tale about media strength. The popularity of the fictional show within the film is based on straightforward voyeurism and morbid curiosity, something arguably all too real in current society; *Big Brother* made its debut a year after the film's release. There are allegedly numerous religious overtones but the one which sticks out is Ed Harris's character being paralleled with 'God'. Ed Harris's character is the TV program's 'creator' and director, so this analogy is arguably spot-on. Some have drawn parallels between Thomas More's 1516 book *Utopia*, in which he describes an island with only one entrance and only one exit. This situation is similar to *The Truman Show* because there are limited entries into the world that Truman knows.

How does the music convey the inherent strangeness of the situation and the multitude of emotions? The film shows us a fictional account of a character that lives a life which for *him* is real but for other actors in the film *and us*, isn't real; there is a multitude of overlapping contexts and narratives which the music manages to distill into simple emotion. How?

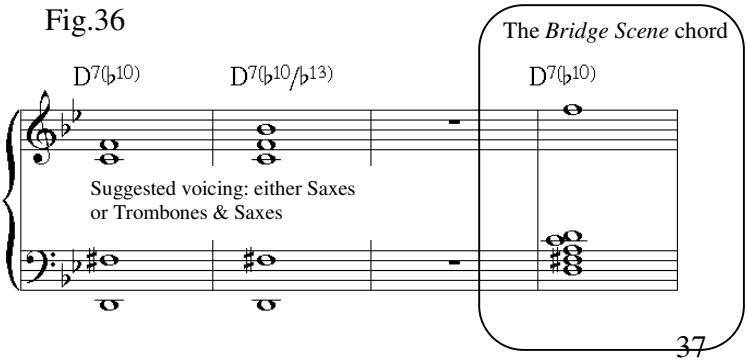
One example of the way in which the music works it to be found in a scene which shows a conversation between Truman and his friend Marlon at a bridge. Like many great music cues its effectiveness from a film perspective is that it runs over the edit which leads *into* the bridge scene. We hear the music for the 'bridge scene' before we *see* the 'bridge scene', which helps frame the perspective in which we view and rationalise it. In essence music 'prepares' us. In the scene Truman (still unaware he's living in a giant TV studio) is talking with his friend Marlon at an unfinished bridge which leads nowhere but the water. Truman tells his friend he's 'thinking of getting out' and visiting Fiji. The bridge leading to nowhere conveys the concept well. Truman talks of the possibility of 'going somewhere' but the unfinished bridge is a metaphor for his lack of confidence or real knowledge.

Fig.35 *Audio - 'Dreaming of Fiji' (Philip Glass) Movie - 00.09.00*



The music provides a simple and delicate melody over a simple and uncomplicated rhythm. The skewed sense of perspective / reality is provided subtly by the F note in bar four (fig.35) which begins as a 5th of the Bb/F chord but *becomes* the flat 10th of the D7 chord. Mostly when we encounter a flat 10 chord, the harmonies are voiced in a way which accommodates the flat 10 in a sympathetic way, contextualizing it with jazz style voicing, such as in bars one and two of fig.36 below.

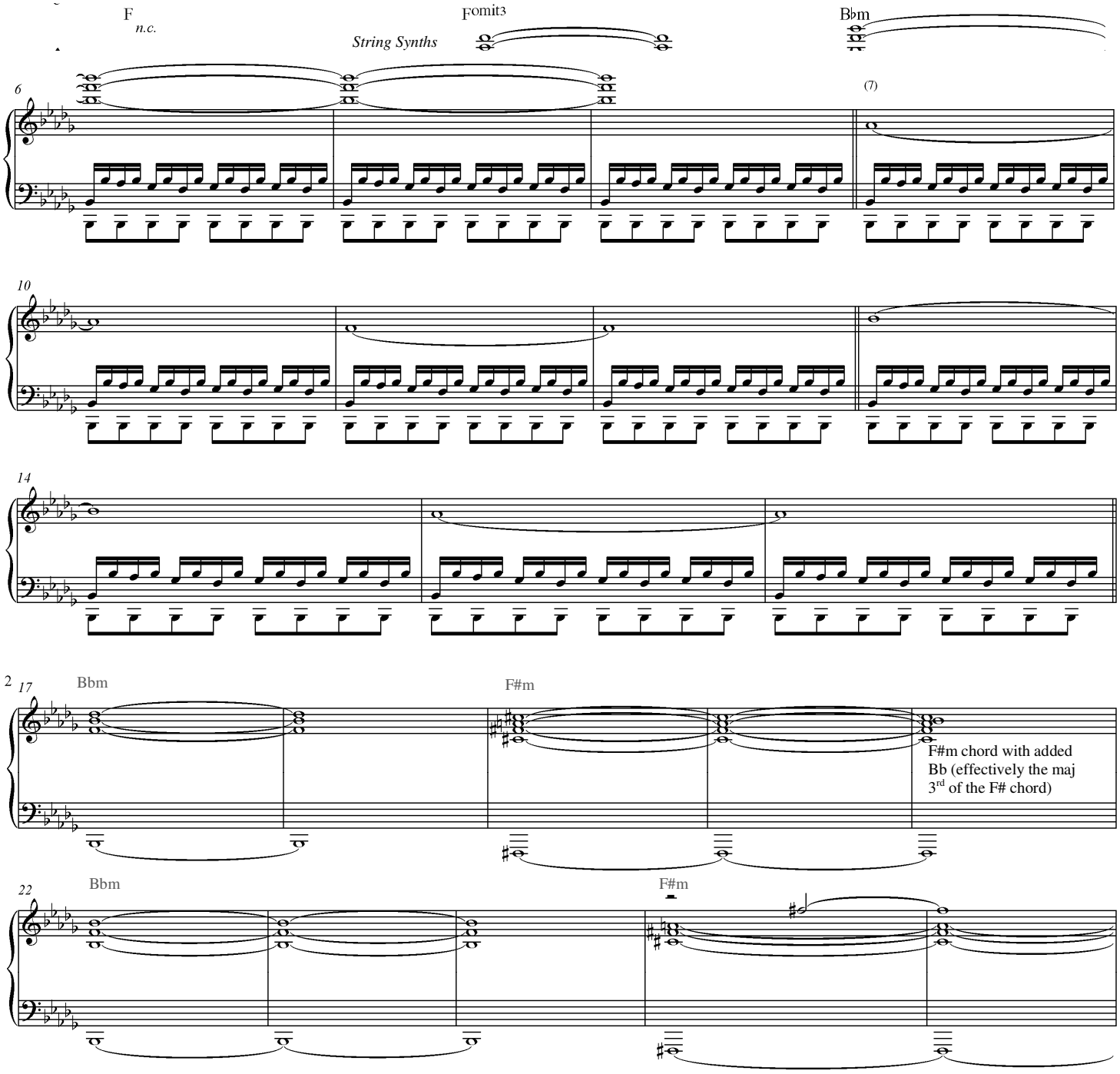
Fig.36

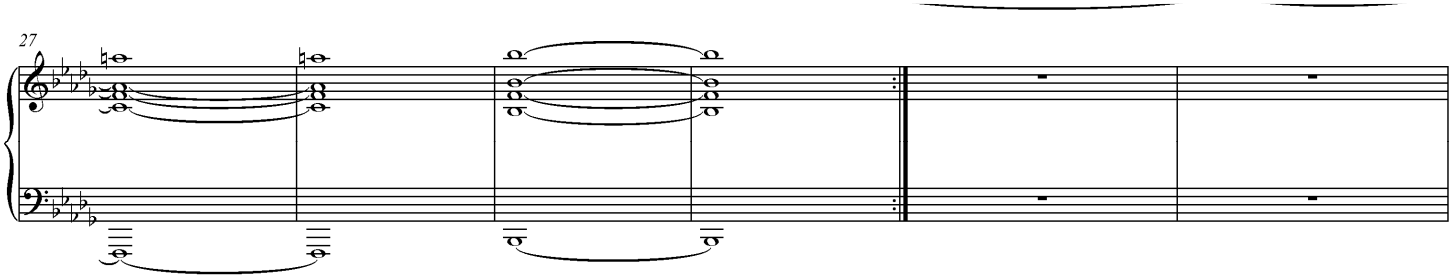


As we can see from the voicing from the film (boxed) the D7 is a simple, straight voicing with a flat 10 placed on top over an octave higher than the D note below. The simplicity of the voicing makes the flat 10 sound a little out of place and odder than it would normally sound in its natural jazz environment, voiced sympathetically (as in bars one and two of fig.36).

The following cue, entitled 'Underground' by Burkhard Dalowitz comes 01.20.22 into the movie, towards the end, during a scene in which Truman, having realised his life isn't what it seemed, attempts to cross the 'sea' in a boat to escape. In order to deter him the programme director arranges to create a storm, unleashed from the roof of the giant film set which encases Truman's world. As the storm begins, so does the music. The same piece comes again during the final credit roll (01.32.00). The music is very precise, quite square and dramatic.

Fig.36 *Audio - 'Underground' (Burkhard Dalowitz) Movie – 01.20.22 (the storm) and 01.32.00 (end credits)*



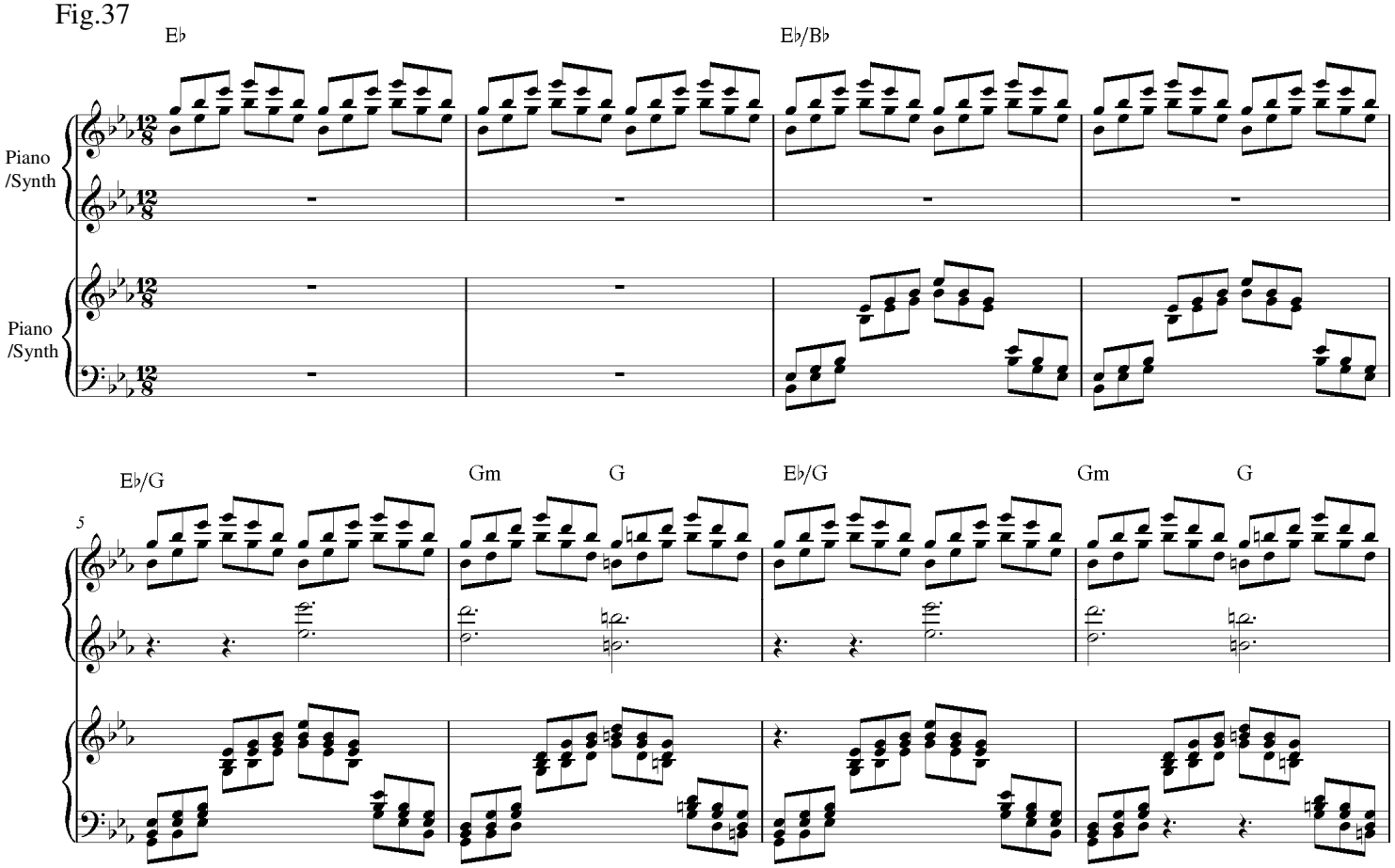


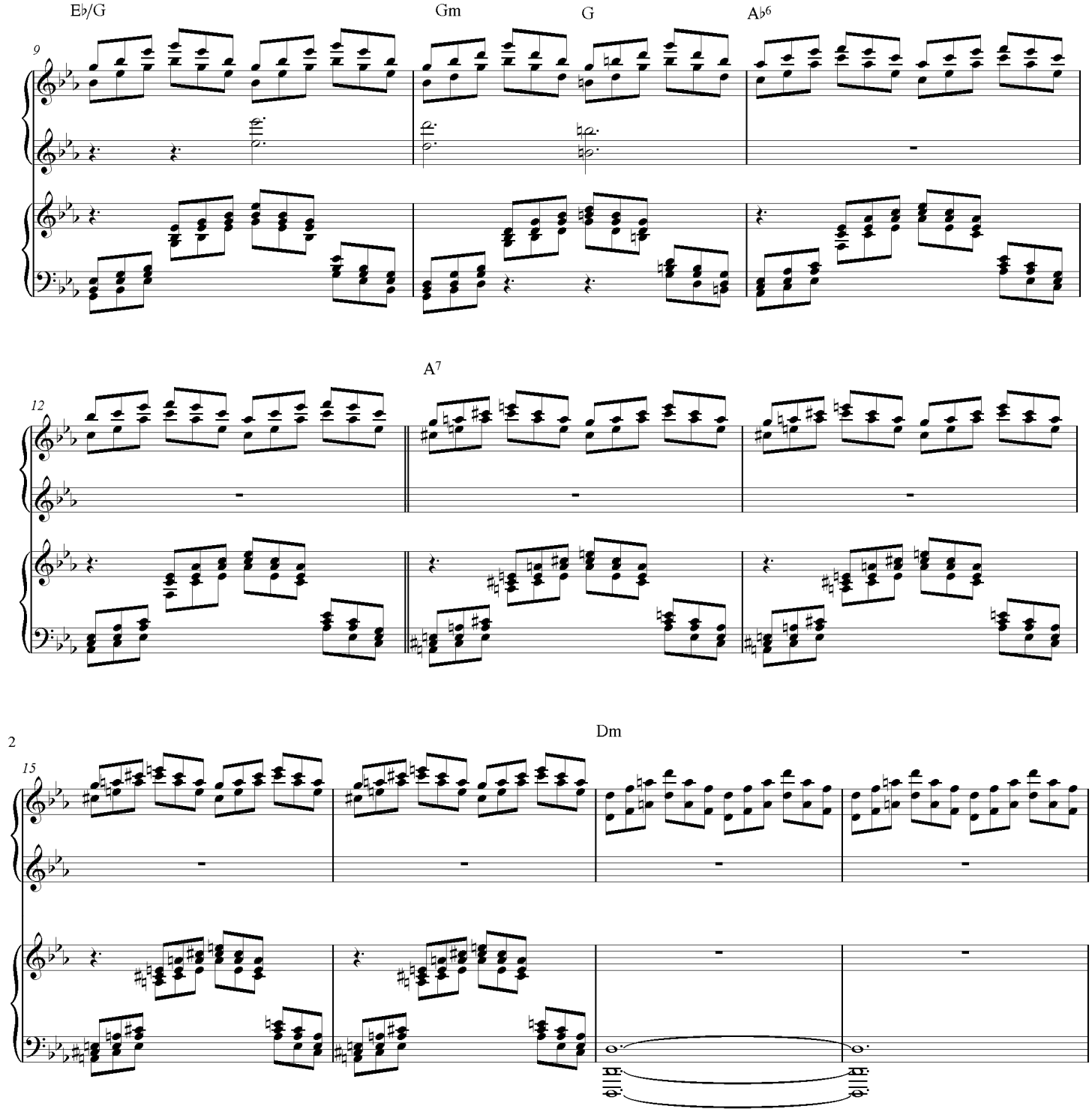
There are two distinct musical characteristics in this piece: the first is the unmistakable Baroque references via the precise and frantic semiquaver movement; then there is the use of implied harmony. Looking closely at the semiquaver line (Bb octaves x2, Ab, Bb, Gb, Bb, F, Bb, Gb, Bb, F, Bb, Gb, Bb, F) we see there are no minor or major 3rds. The top string harmonies on the top stave state bare intervals. Why then do we 'hear' the sequence as Bbm? The *scale* of Bb melodic minor contains a Gb and an Ab, just like the cue. The scale of Bb *major* contains neither. The chord of Bbm is implied and inferred by virtue of the semiquaver line using notes *associated* with its scale. On a subconscious or a conscious level we make the connection and listen to it in this way. Sometimes we possess knowledge we don't know we have.

One of the most effective and iconic pieces of music to grace the *Truman* movie was Philip Glass's opening music for the American/Japanese film *Mishima: a life in four chapters.* This appropriation works extremely well in the *Truman* film, coming as it does just before the end, as Truman, in a now iconic pose, stands in front of the blue studio wall and, having survived the storm designed to defeat him, literally 'bows out' before walking through the door which will lead him out of the studio and into the rest of his life.

Audio – 'Opening' (originally from 'Moshima' (Philip Glass) 00.56 Movie – 01.31.06

Fig.37





The frantic arpegiated triplet semiquaver and the distinctive piano/synth textures help define the abstract nature of the piece and are critical to its success, as is the peculiar and specific 'bell' sound which plays the 'melody'. The piece exudes dramatic tension and has a real vivid sense of melodrama and theatre. The harmonic sequence is crucial too, but any feeling of chordal harmony is largely lost due to the speed of delivery of the quavers.

Although there are no 'chords' in this piece, harmonies are stated in a fast and horizontal fashion which implies rather than states chords. The first 'chord' we experience via the arpegiated triplet quavers in bar three is an Eb with a bass note stating a Bb, giving the harmony a 2nd inversion feel. When the 'Bell' theme begins (bar five) the bottom stave quaver triplets again have a strong inverted feel, this time the 1st inversion (Eb/G).

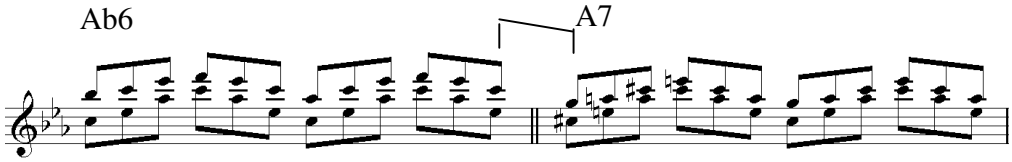
The harmonic sequence created in bars five-ten by the arpegiated quavers is Eb/G (bar five) Gm and G (bar six); Eb/G (bar seven) Gm and G (bar eight); Eb/G (bar nine) Gm and G (bar ten). The fact that the quavers in the first two beats of bars six, eight and ten state a Gm whilst the quavers that occupy the last two beats in the same bars state a G chord is telling; minor-major chordal repetition has been one of *the* cinematic suspense harmonic devices for years. Glass buys into this with the rapid shift between Gm and G.

At the dramatic climax of the movie the camera cuts between Truman leaving (the director deciding not to 'cut the feed' but instead making Truman's plight television-worthy in real-time) and the faces of the viewing audience glued to their screens. The sequence of Eb, Gm and G is quite odd, particularly, as we've established because of the minor/major shift in mid bar; but the fact that the G then *returns* to the Eb and repeats the cycle is what creates real abstract colour. The G to Eb chord transition creates the oddity, the surprise; the thing we didn't expect. Any sequence of a G chord to an Eb chord is odd, but one that is communicated and articulated in such a frantic way scatters its harmony in all directions like bullets out of a gun. Other factors explain why G to Eb sounds 'odd'; we *remember* the maj3rd of the G chord because it is the colourful harmonic component. This memory bleeds into the Eb chord, where it lingers as a #5. It is this event which colours the sequence.

The maneuver from the arpegiated chord of Ab6 in bars eleven and twelve to A7 in bar thirteen onwards (fig.37 and also separately below, fig.38) is also interesting. The chord moves up a semitone from Ab to A but the *extension* moves up at a different rate (a tone) from a 6th (F) over the Ab chord to a 7th (G) of the A chord. This might seem like an innocuous point but remember the maj6 and 7 extensions have different characteristics and create different colours harmonically. Placing them over sequential chords which are a semitone apart can slightly distort their character. Also the last quaver triplet note of the Ab6 bar (C, maj3rd) to the first note of the A7 bar (G, a 7th) is itself a bare 4th making the maneuver sound a little squarer.

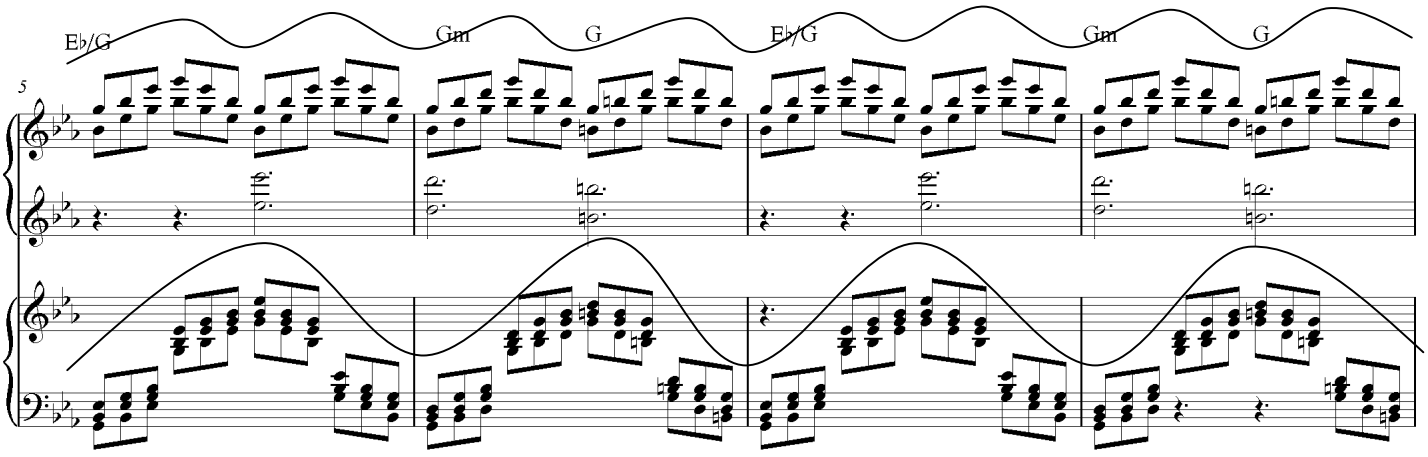
What also makes this sequence interesting and mildly disruptive to the harmony is the obvious memory of the C note (maj 3rd of the Ab chord) 'leaking' into the bar of A (where the memory of it clashes with the C# maj3rd). It is this collection of almost imperceptible harmonic issues which offer the exchange a slight strangeness. If you play the sequence in question (which is isolated below) you can feel the slight harmonic dislocation.

Fig.38



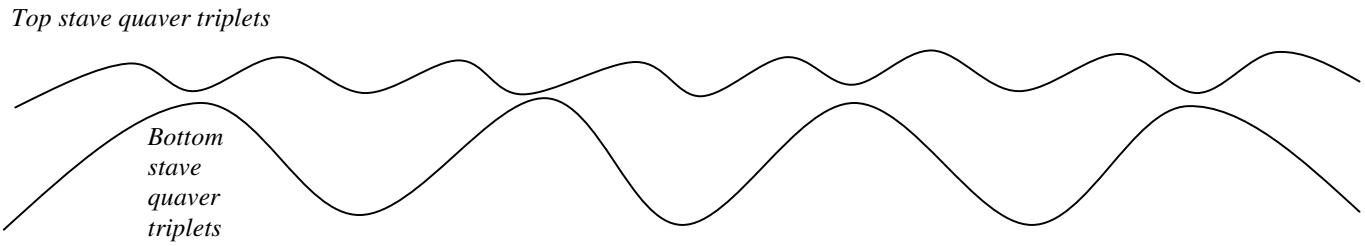
The quaver triplets in the piece as a whole are what give us the rhythm and the harmony. The harmony we hear is gradual, suggestive, implicit and horizontal rather than the 'actual' emphatic vertical type one might hear in a stated chord, which sounds for long enough to be rationalised. The quavers are the main context available to us in the piece. There is theoretically a chance that the sheer amount and speed of the arpegiated quaver triplets could render the piece irritating and perhaps boring. Philip Glass solves this by subtly altering the rate of the *bottom* arpegiated quavers so they are not literally duplicative of the top stave (see fig.39 and fig.40)

Fig.39



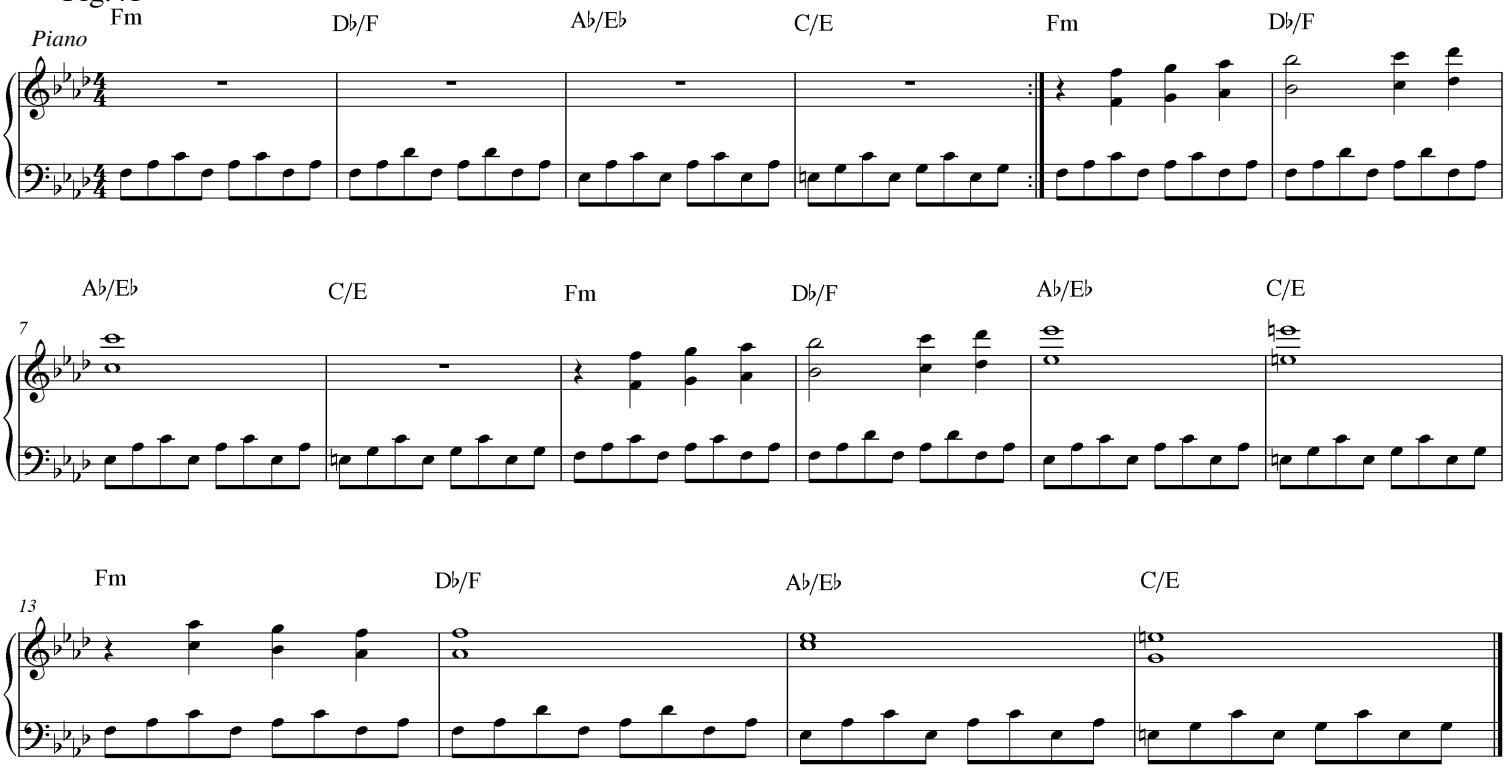
Looking at the specific contours of the different sets of arpegiated quavers, we can see that although they are delivered at the same speed, the rate of upward ascent and downward descent is halved on the bottom stave. This creates real clarity which helps us see and hear daylight between the two lines and prevents them from being merely duplicative and merging into each other. The variation prevents the piece from becoming too rhythmically parallel.

Fig.40



Easily one of the most effective and emotional pieces in the film is called 'Truman Sleeps' by Philip Glass.

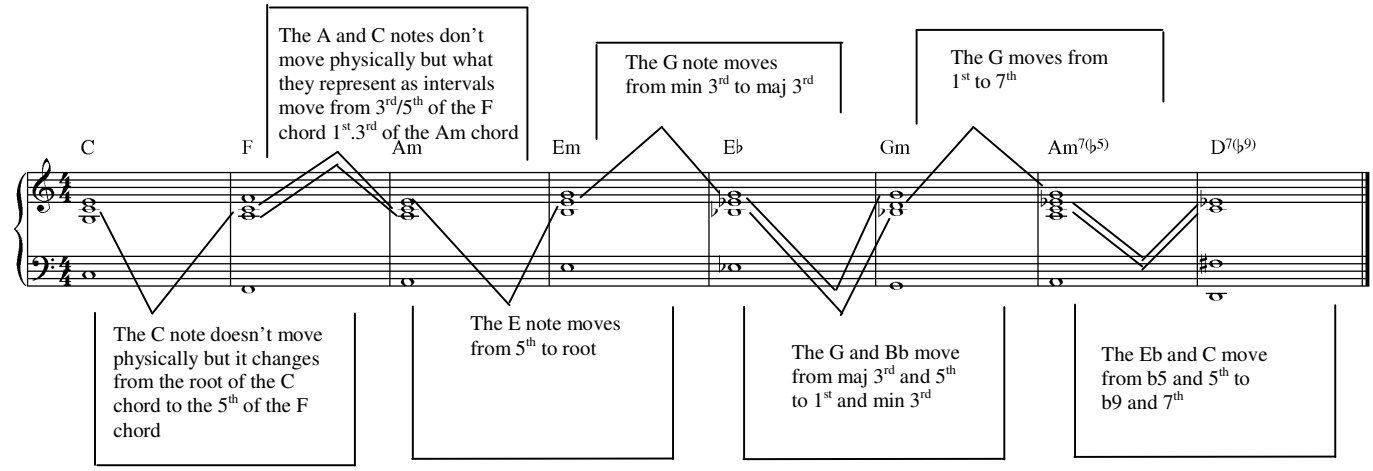
Fig.41 *Audio - 'Truman Sleeps' (Philip Glass)*



Although when we listen to this piece we're drawn, out of habit, to the melodic line, it is the quavers on the bottom stave which provide the harmony and context and it is the slightly hypnotic feeling created by this line that is pivotal in articulating the emotion of this piece. Out of sixteen notes in bar one and two the only note which actually changes *physically* is the C in bar one which moves to a Db in bar two. But this simple change re-contextualises how we 'hear' and interpret *the other notes* (see fig.43). The fact that a physical alteration of just one note makes such a difference to how we interpret the rest of the notes is an example of how harmony works: Apart from the C to Db the rest of the notes in bars one and two do not change physically; the notes remain but their intervallic context changes. The key issue is that we are involved in that process - it is our perception of the subtle intervallic manoeuvre which defines how it sounds. Unlike a note which changes physically and emphatically, the intervallic change is more subtle and perhaps more dependent on *us* – the listener.

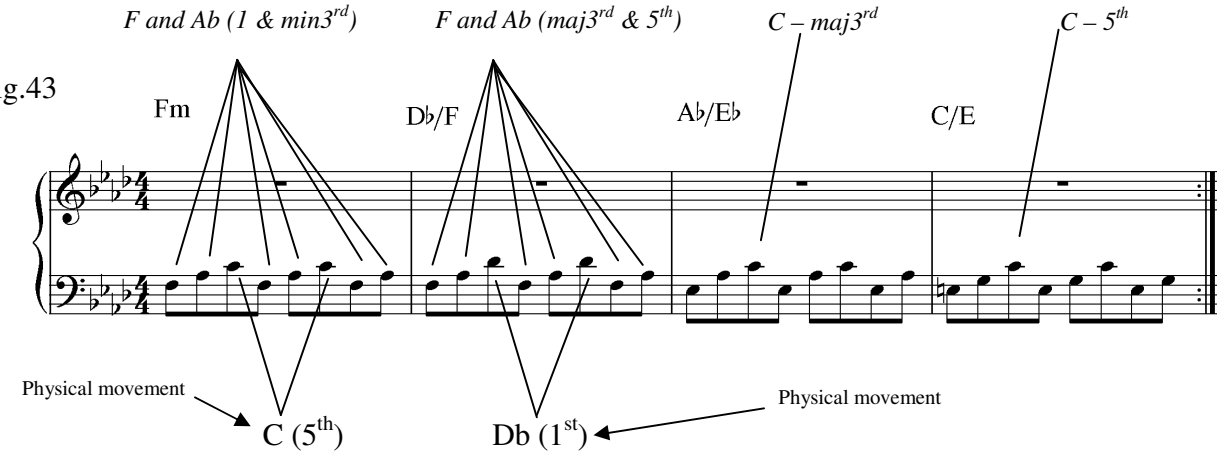
Before we look at 'Truman Sleeps' again, let's just take a minute to look at how intervallic change effects basic chord changes.

Fig



These kinds of intervallic shifts go on all the time in music; harmony essentially *is* a collection of physical and intervallic shifts. But when intervallic shifts become highlighted, exposed or italicized or become the main focus, their effect becomes more profound. Hearing the intervallic context of a note change (but not the note itself) can be an interesting experience, especially when it is exposed. Below (fig.43) the first few bars of 'Truman Sleeps' is transcribed again, this time with these issues highlighted.

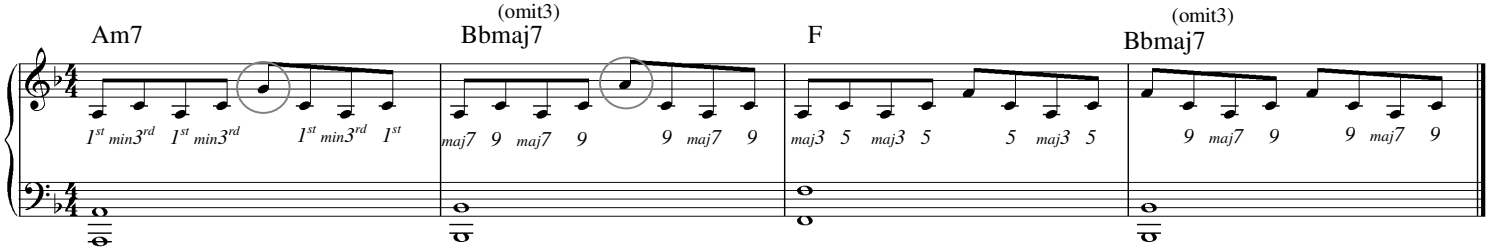
Fig.43



The same issue is present in the same kind of way in a song called *Colourblind* by the band 'Counting Crows'. Observers have sometimes referred to the piano intro (below) as 'mesmerizing'.

Some have alluded to the 'haunting piano intro'. There isn't much that could be described as haunting about the 'sound' or the performance. But what *is* conceivably a little mesmerizing is the interaction of the notes *as intervals* in context to the implied chords.

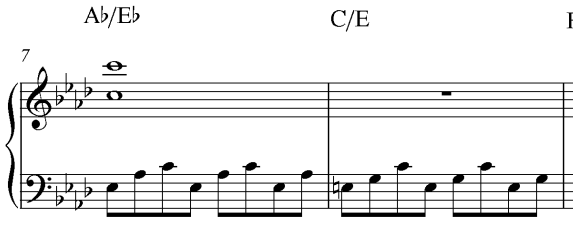
Fig.44 *Audio - 'Colourblind'* (Adam Duritz/Charles Gillingham)



In the right-hand arpegiated line just two notes change physically from bar one to bar two (circled). Despite only two notes changing physically from bar one to two, the other seven notes in each bar also change, not as physical notes but as intervals. To say that the intro to *Colourblind* is simply a line played over different bass notes and to pass it off as Ostinato is to turn a blind eye to one of the fundamental ways harmony communicates.

When we listen to chords we default to a presumption that the lowest note, the bass, is the root of the chord. This is how we interpret, how we rationalise. This is usually an instant, involuntary reaction; this is our system of cognition at work. To assume that we have no common system of intuitive categorisation and classification would mean that we all hear completely differently and music therefore exists as a kind of sonic chaos. As we know, music often appeals to people in common and predictable ways which in turn creates a system which produces music that enjoys many similarities and is inherently *similar*.

Fig.45



Another interesting aspect of *Truman Sleeps* is the chord change in bars seven and eight of fig.41 (Ab/Eb to C/E, highlighted separately in fig 45 (left) which feels a little odd; the 'memory overhang' of the Eb note (bar 7, left-hand) clashes with the E notes in bar eight. This is made more profound because the E note constitutes a maj3rd which is much more of an exposed and pivotal interval.

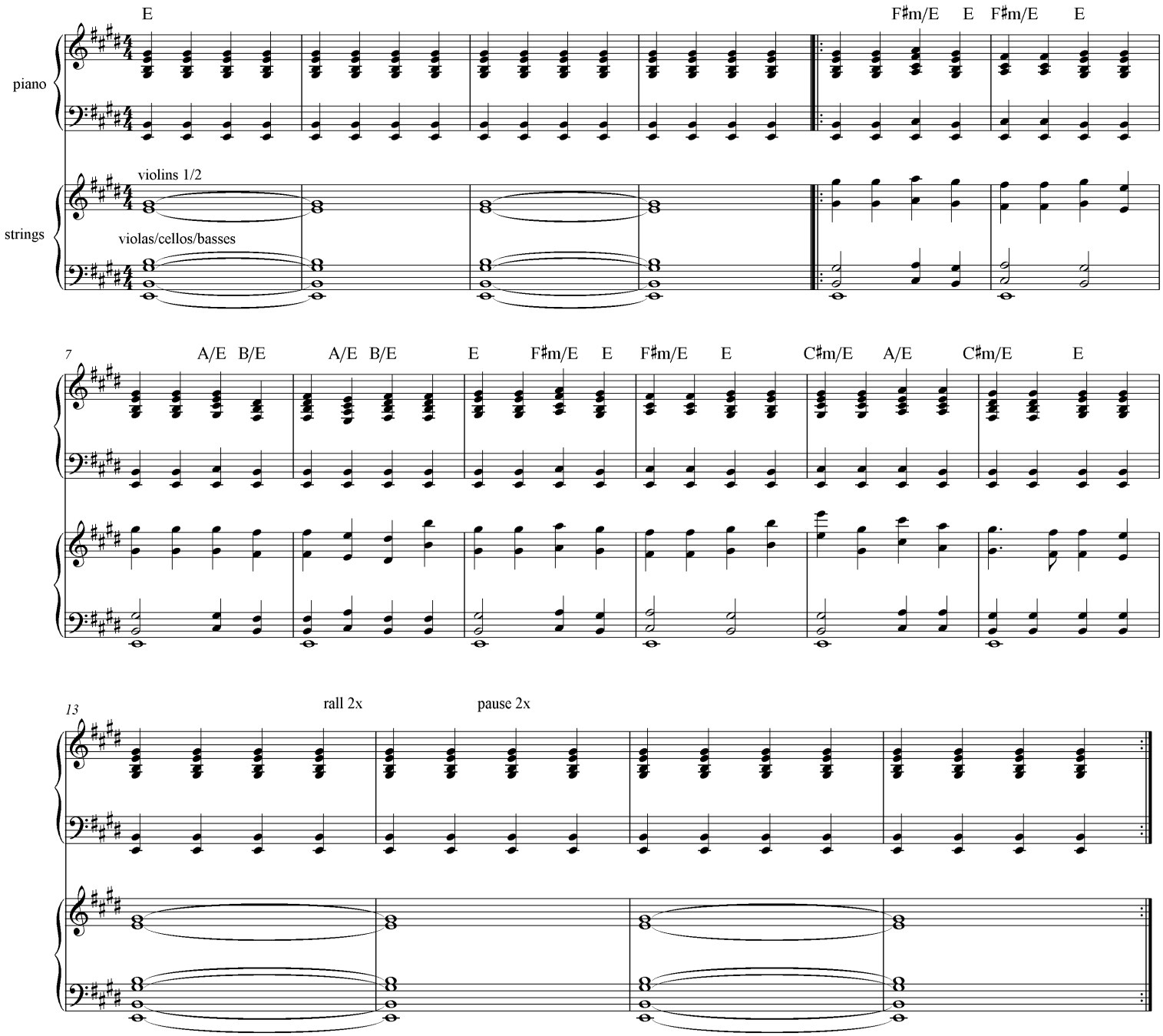
In praise of monotony

We associate monotony with something being boring, dull, tedious and wearisome. But in an artistic and musical context the idea of relentless repetitiveness is a valid artistic and compositional approach. As I alluded to elsewhere, the concept of doing less rather than more (whether harmonically, melodically or instrumentally) can be an effective compositional tool and can work well in film. Much of the music we listen to is 'information-heavy'. We are sometimes punch-drunk on the overkill caused by how music information is *inside* music, with chord changes often hurried, contrived and forced by music whose primary objective is to impress. When music has less *inside* we tend to be able to exercise our powers of interpretation, perhaps focusing more on what *is* there. Given less to contend with, we may fill in the missing context with contemplation or anticipation. In film this approach is heightened even more when sound design is pulled down, as it is during the next piece from *The Truman Show*.

The piece begins as Truman's hand touches the sky and cloud-covered wall enclosing the 'ocean' he has just travelled to escape his world. The sound design comes down and the music comes up. We see but we don't hear Truman banging on the wall in frustration.

The music is perhaps not typical of what we might have expected from a 'normal' filmic approach for this scene, but the silent banging fists and muted sound is tailor-made for music to take the lead. The cue is quiet, introverted, simplistic and monotonous, juxtaposing the frantic scenes we watch.

Fig.46 *Audio - 'Father Kolbe's Preaching' (Wojciech Kilar) 00.00 Movie 01.26.00*



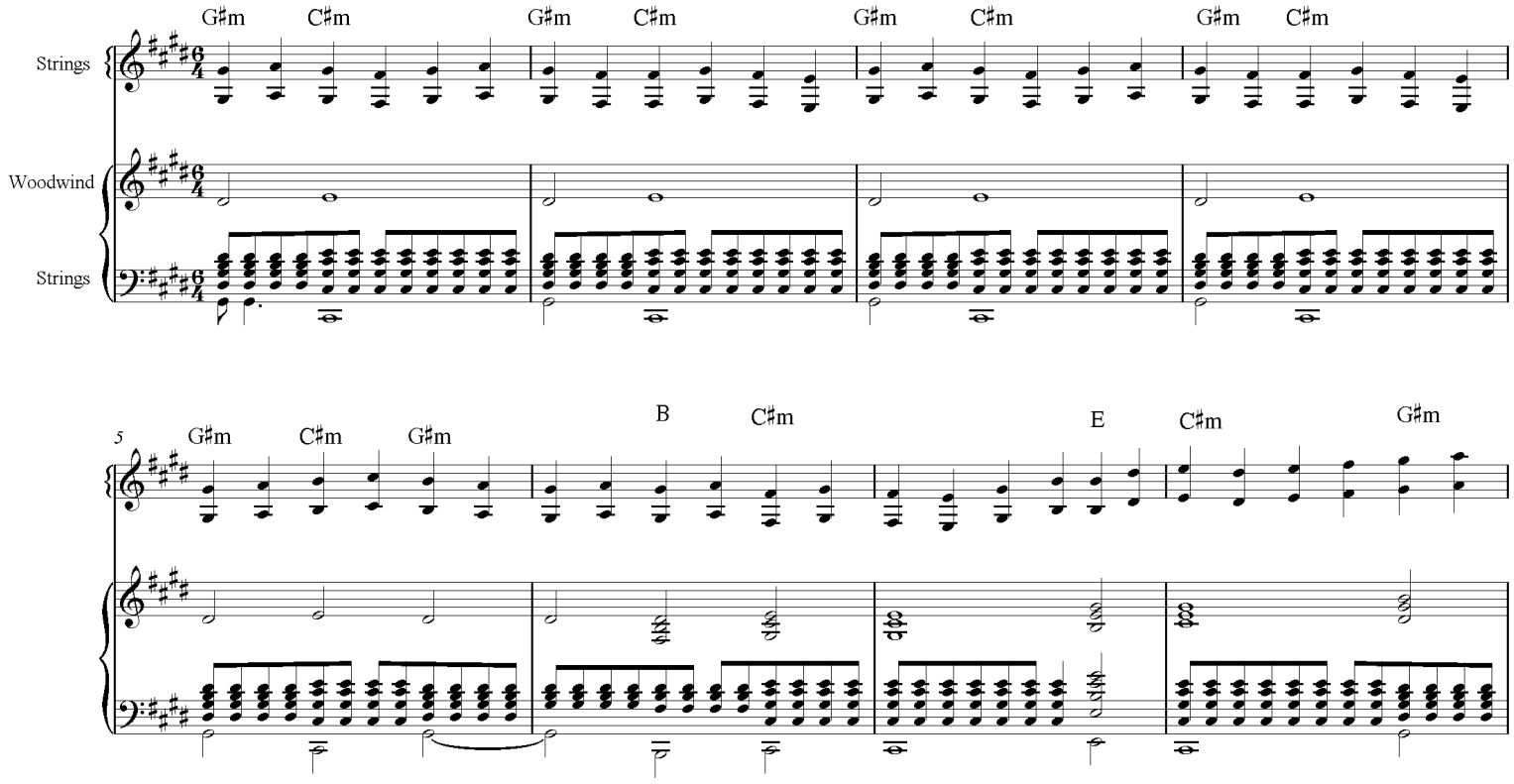
The End of the Affair *(Michael Nyman)*

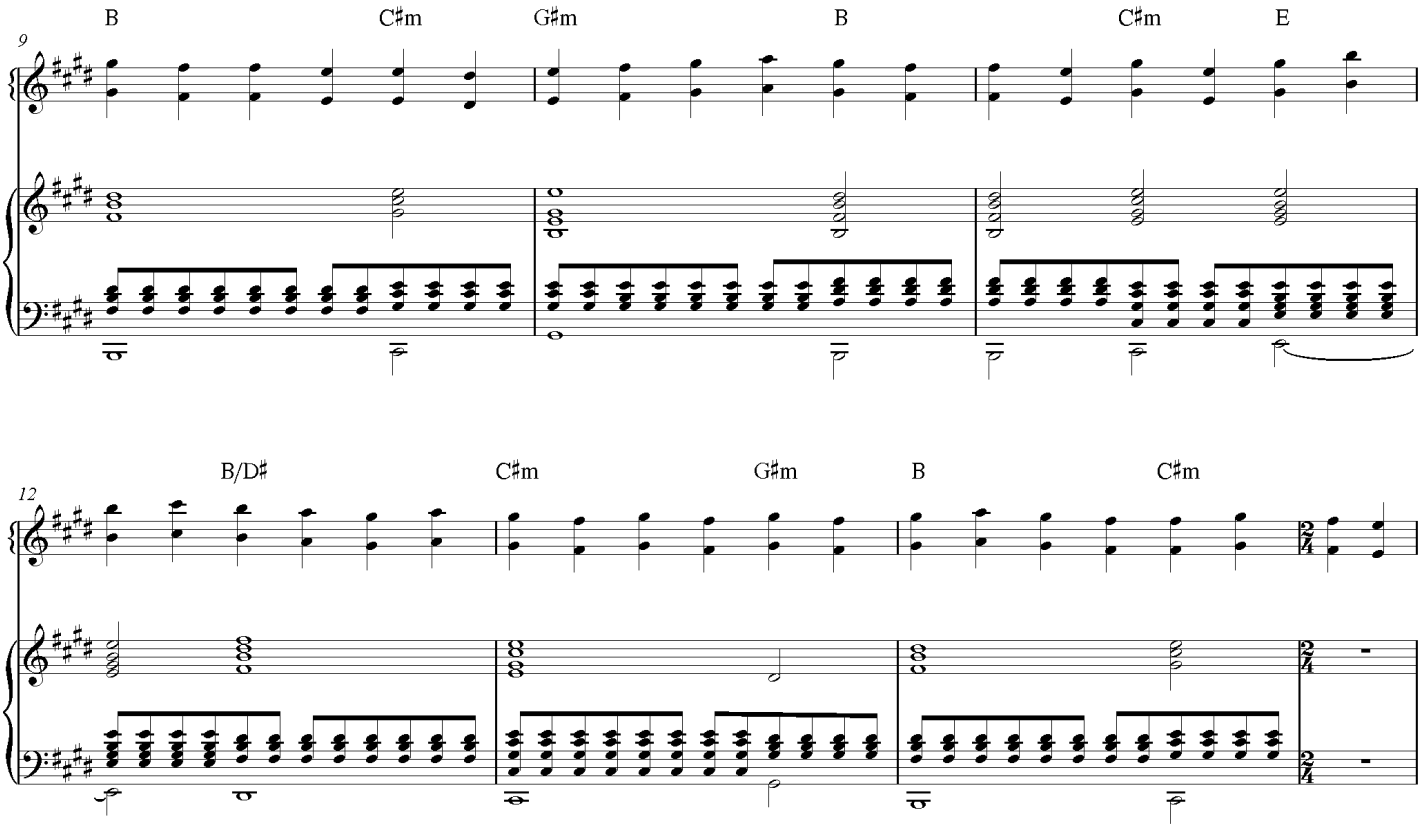
Similar in style to 'Father Kolbe's Preaching' is the main title track to the movie *The End of the Affair* composed by Michael Nyman. Once again, as with his score to *Gattaca* (analysed earlier) we can see how his excellent use of plodding harmonies, simple but repetitive melodic lines and complimentary orchestration creates an effective subtly monotonous mesmeric quality which articulates the complex and deep narrative structure of the film. Jerry McCulley said, in his review for Amazon.com: "Brooding, modern, and introspective, Michael Nyman's score for Neil Jordan's screen adaptation of Graham Greene's dark, postwar drama largely eschews melodic accessibility and convention. Instead, like Howard Shore and the great Bernard Herrmann before him, Nyman utilizes subtly shifting minimalist motifs to underscore the film's moods and amplify its drama. Though the result may not be memorable from a traditional melodic sense, many will find it an emotionally commanding soundscape that's as challenging as it is rewarding".

One of the many interesting aspects of this piece is the time signature and how we rationalise the sense of musical time. On first hearing it's difficult to deduce a sense of time signature. This, compounded as it is by the relentless crotchet melodic line, is part of how it achieves its hypnotic qualities. Nyman succeeds in taking a sense of 'overall timing' out of the piece. With most music, listeners tend to have a sense of 'local' timing (e.g. the rhythmic movement of the notes within context of a bar) and a sense of 'overall timing' (e.g. the safe, repetitive sense of a time signature which puts a four or eight bar phrase into some kind of structural context). Nyman manages largely to remove some of these safety nets which mean listeners tend to focus more on smaller units of relative musical time, which adds to the mesmeric quality of the music.

Audio - 'Diary of Hate' (from 'The End of the affair')

Fig.47





On first hearing the cue we tend to default to a presumption of 4/4, especially when we rationalise the first eight crotchets as simply two successive bars of 4/4. The equally relentless quavers on the bottom stave can easily be listened to in 4/4 too. The only slight giveaway that we're not in 4/4 is the chords, whose time values are minim and semibreve, indicating a 'three feel'. Part of the mesmeric quality of this piece is precisely the manipulation of our senses created by the combination of an overall timing which isn't clear and a plodding, 'monotonous' crotchet melody.

United 93 *(John Powell)*

United 93 is a fact-based film by Paul Greengrass about events aboard United Airlines 'Flight 93' on September 11th 2000. It was the first major 9/11 Hollywood film and had a distinct documentary feel. In order to underline the reality of the situation and make the film as authentic as possible, many airline personnel were played by actual airline staff. Some of the dialogue was improvised during rehearsals and was based on face-to-face interviews between actors and families of those they portray. The identities of the passengers remained anonymous in the film, emphasizing that strangers on an airplane would probably not have known each other's names. Powell could just have written easily identifiable and digestible themes for the main characters, or at least themes distinguishing the different groups of people or situations. Instead, and in recognition that this was essentially a dramatized documentary, he created a soundtrack of distinctive colour and mood rather than distinctive cues.

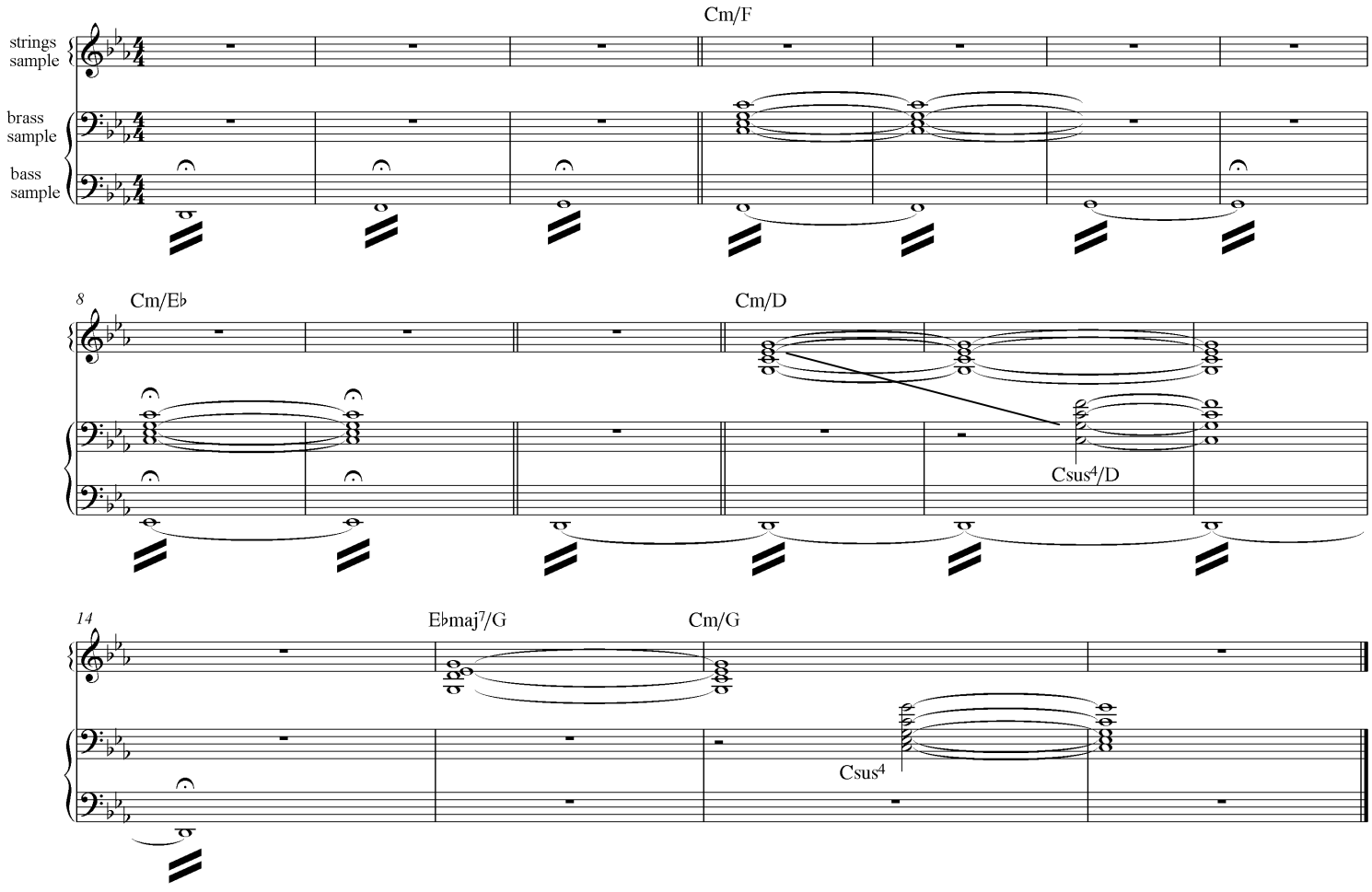
Described astutely and expertly as 'music which states but doesn't judge' the score successfully retains the documentary feel whilst expertly adding a disturbing and disquieting edge. The music does not cause or create tension in the classic film music way: most film music has an identifiable style; an attitude, an opinion, a point to make.

Powell's music works because it is not overtly stylish and does not adhere to enough of a stylistic approach for it to be recognised; for it to have an opinion. So what exactly *does* the music do if it's busy avoiding an archetypal approach? Even though it is relatively style-free, it does create emotion; it instills panic but avoids melodrama. It encapsulates fear but not terror. One of music's 'dramatic' roles in film is to foreshadow, to forewarn, to foretell, to pre-empt. For the most part Powell's music plays what the *characters* are perhaps feeling; this is why it is understated. The actors played the parts of *real* people in a real event, most of whom, thankfully, did not realise the full extent of their situation. The music follows *this* narrative. It doesn't ever exaggerate, embellish or embroider the facts. It plays it straight and with dignity and subtlety.

Perspective and context

It's interesting how seemingly ordinary chords open up another dimension of context when treated with specific and appropriate texture, instrumentation and preamble. By preamble I mean, for example, the three bars of sub-bass leading up to bar four in the example below (fig.48). The Cm/F is an ordinary, pop-oriented chord. If you play a Cm/F chord with its usual predictable contextual surroundings it is rationalised by the listener as such. If it appears from nowhere, constituting the first real chord of the piece, starved of its usual surrounding context and terrain, after three bars of sub-bass playing an unrelated note, we hear it in an entirely different way. Sometimes in order to provide unease or disquiet or apprehension we don't have to look for a classically apprehensive chord, we simply need to deliver a chord *out of context;* the three bars of sub-bass therefore become part of how we hear the subsequent chord of Cm/F.

Fig.48 *Audio - '2nd Plane Crash'*



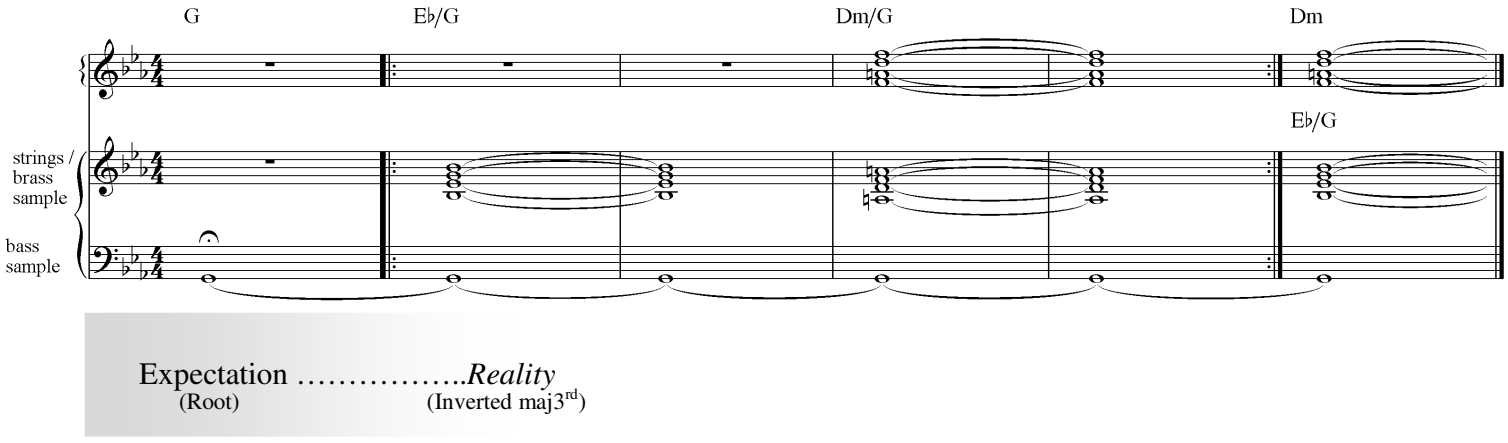
Another interesting aspect of the track is the way Powel fuses two subtly different chords, creating a slightly abstract chord. In bar eleven a chord of Cm (voiced over the G) is played on sampled strings (over the low sub-bass D). This is then merged with the Csus4 played by sampled brass. The combined chord possesses the min3rd *and* the 4th. This is an evocative chord because it merges two *types* of chords which traditionally have two different dominating harmonic characteristics (min 3rd and 4th). Similar to when you overlay two sheets of acetate to show a composite picture which shows two simultaneous images, two subtly different chords stated together can often produce a strange, disorientating sound. Chords which contain a min3rd and a sus4 do not normally play a huge part in music because usually composers are trying to establish a specific and easily identifiable voice. Composers do not general, as a rule, set out to confuse people. But in film situations composers may wish deliberately to take specific character (and 'opinion') out of a chord to allow it to embed itself in the movie. The type of chords Powell uses in '2nd Plane Crash' are used at different points in the film and in different audio tracks from the album; this is one of the harmonic devices that Powell utilises to create a musical dimension for the film and could be referred to as a sonic and harmonic 'calling card'.

Categorisation and classification

We always listen with judgment. As listeners we possess an inevitable and human partiality. When we hear one note (an initial bass note, perhaps) we unwittingly prejudge it to be a root. This is not a conscious act but it is the mind's way of categorizing and classifying what it hears to prevent music from becoming chaotic. This is the way we impose character and personality to a chord. It is an important procedure; it also allows us to build up a database of information which we then use to understand what we hear. Without it everything we listened to would be heard on face value with nothing to compare it to or contrast it with; our aural world would be disorganized. The same process governs how we see the world we live in. We do not have much by way of 'objective senses'. So when we hear the first low G note in the cue entitled 'The End' we assume it is a root. When we then hear the Eb chord there is momentary surprise to hear that the G plays a different intervallic role to the one we expected. This brief, almost imperceptible sensation is all that it takes to create a subtly different mood. This is why the piece works; our reaction to the music governs everything. To some degree this is the case with most music but with some music, such as this track, the process is more obvious. This is not melodrama or even drama; it is a subtle manipulation of our aural senses.

Audio - The end

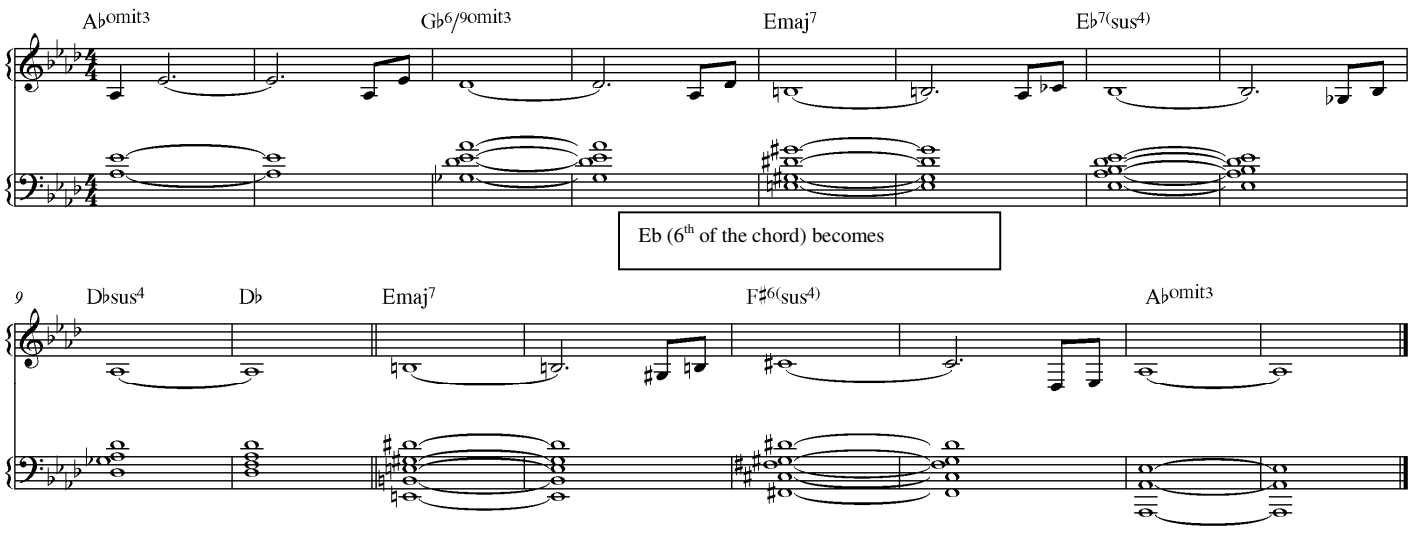
Fig.49



Tron Legacy *(Guy-Manuel de Homem-Christo & Thomas Bangalter - aka Daft Punk)*

The 'overture' track on the soundtrack album to *Tron Legacy* is an interesting piece in that it functions as a dramatic preface for the movie's narrative. The horn line delivers the kind of fanfare we might have had in much older historical dramas and perhaps religious epics. The opening four bars offer more than a polite nod towards Aaron Copeland's 'Fanfare for the Common Man', presenting a different and more subtle and filmic harmonic accompaniment. In order to make chords more subtle, softer and filmic the composers have 'taken the edges' off, offering, once again (and as we have seen numerous times) partial and fractured harmony; harmony which is less certain of itself. In this cue virtually all chords have harmonic components missing to create ambiguity, or have added suspensions. This all serves to make the changes less obvious and more subtle. Music which is less obvious, more subtle and open to interpretation can engage listeners on a slightly deeper level and succeed in drawing them into the images.

Fig.50 *Audio - 'Overture' (from Tron Legacy)*



JFK *(John Williams)*

JFK is a 1991 Oliver Stone film which investigates the assassination of President Kennedy and the alleged conspiracy and cover-up. The story is told through former New Orleans district attorney Jim Garrison, played in the film by Kevin Costner; Garrison brought the only prosecution to date for conspiracy to murder President Kennedy. The controversial film was based partly on the book *On the Trail of the Assassins* by Jim Garrison. Director Oliver Stone made the film partly to challenge the much-doubted and heavily debated official findings of the Warren Commission, the body which investigated the assassination. One of the most important scenes in the movie occurs when a mystery man portrayed by Donald Sutherland speaks to investigator Jim Garrison in a clandestine meeting in Arlington cemetery. "Everything I'm going to tell you is top secret," he says, before revealing 'the truth behind the conspiracy that killed John F. Kennedy'.

The film encountered some criticism not least because the mystery man never actually existed; Stone was thus accused of fictionalising one of history's greatest tragedies, which many saw as disingenuous, especially given that Stone was pursuing what he said is the more truthful narrative of the Kennedy assassination.

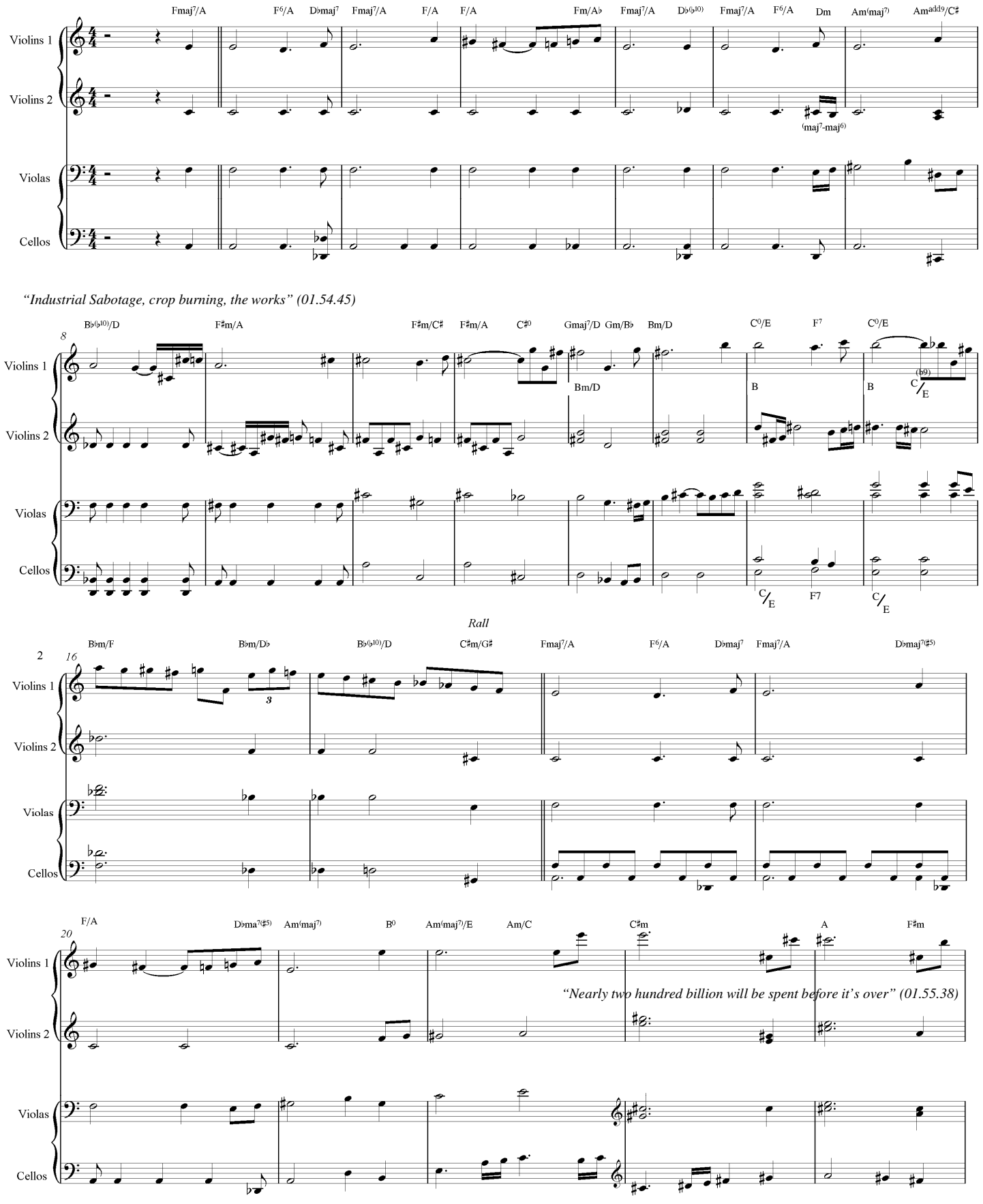
Such criticism is arguably a little harsh when we consider that the use of fictional characters to underpin fundamental truths is nothing new in film drama. To take a bunch of facts our research tells us is true and deliver them narratively through a fictional character is a classic film device. The music which plays behind some of this scene and appears on the soundtrack album in a track entitled 'Arlington', successfully betrays a whole host of feelings and emotions and acts as a brilliant musical emotional commentary not just on the scene itself but on the wider narrative; the tragedy of the assassination of a President, a youthful and charismatic leader cut down in his prime and a subsequent cover-up. Much of the intense and dialogue-heavy scene is taken up with Sutherland's character taking an increasingly incredulous Garrison through what 'really happened', culminating in his theory that the Kennedy assassination was, in all but name, a coup de tat. Interesting and dramatic though this is, without music it is merely words.

There is a finality and absoluteness to spoken words which in most cases creates a definite and unequivocal interpretation. Similarly moving pictures speak to a viewer in relatively defined terms. But music delivers a unique experience; it delivers emotions which listeners feel and experience but which in most cases they have no idea why or how. This is part of the uniqueness of music and the effect it has on us. This is also how and why the music manages to draw out the drama and italicise the relevance and importance of Sutherland's monologue; the emotion that music offers is subtle, delivered not with words or pictures or signposts, but with nuances and tensions we're effected by but can't explain. These are an ideal accompaniment to the certainty and finality of words. The music takes the listener through a range of emotions including sorrow, grief, fear, anxiety and apprehension. This is achieved by the distinct colours painted so vividly by the harmonies and in particular the voicing of chords. The piece flirts between darkness, abstraction and intensely colourful romantic writing. This is classic writing from the brilliant mind of John Williams.

John Williams is understandably principally known for his themes; his melodies have successfully captured the imagination of moviegoers worldwide for decades. He has done more to preserve and protect film music than any other composer but in addition he has arguably done more for the *orchestra* than any other living composer.

For the vast majority of people the only time they will hear an orchestra is in a movie theatre. Despite the snooty befuddled gentlemen's club of classical concert music and its legendary antipathy toward film music, Williams has done more to preserve the concept of orchestral music than any living classical composer could have ever hoped for. I say all this because when you scratch the surface of his music and look beyond and underneath the melodies and into the harmonies, instrumentation and voicing, you will often find vivid, abstract and fabulously communicative music. Such harmonies are to be found in the 'Arlington' cue (fig.54), which has dialogue added at crucial points.

Fig.51 *Audio - 'Arlington' 01.14 – Movie 01.54.24 (verbal cue "Operation Mongoose")*



"Kennedy wanted to end the Cold War in his second term in office" (01.55.55)

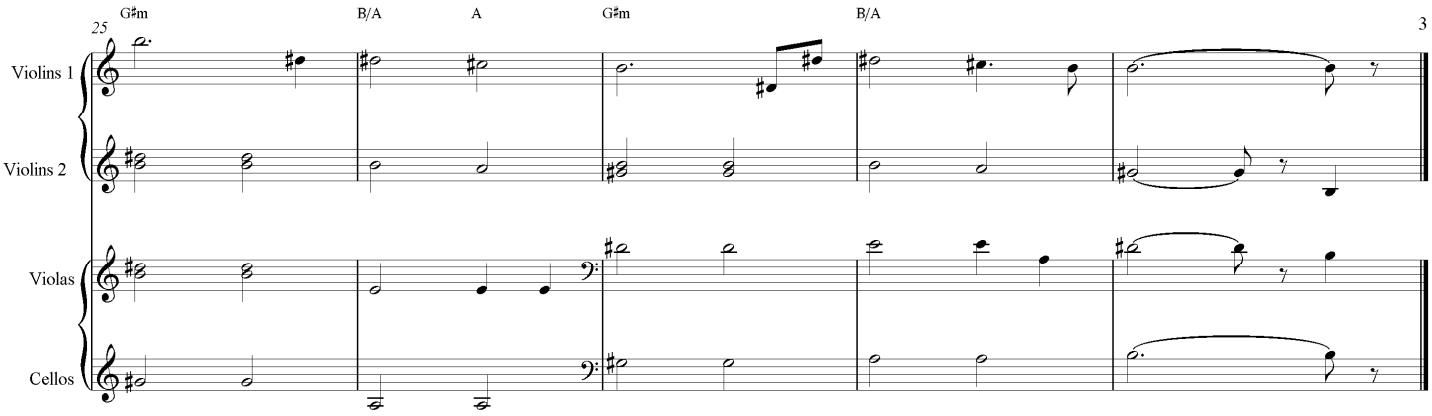
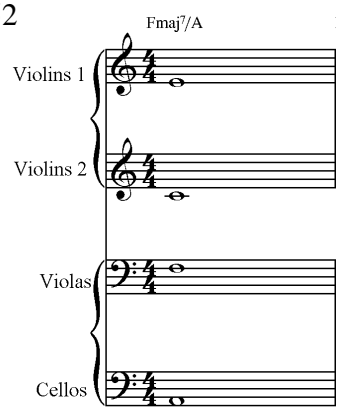


Fig.52

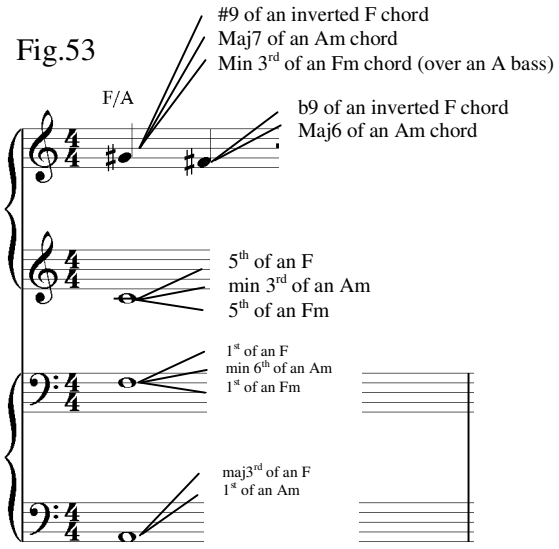


To begin with a simple observation, in bar two of fig.51 (and transcribed separately as a semibreve chord in fig.52) we see an Fmaj7/A. This is a good example of how we can subtly change the character of an otherwise 'bright' and 'happy' chord by voicing and the use of inversion. The redistribution of notes with the low 'A' note alters the harmonic dynamic, as inversions always do. But what is also accentuated and italicised by the A bass is the fact that the chord is only one note away from being an Am chord. The top two notes of the chord can almost be heard as 3rd and 5th of an Am. The lack of an A note within the main body of the chord (between the C and F) forces a bare 5th interval between the F and C, which adds to the starkness of the chord and slightly disguises its identity.

In bar four of the original transcription of 'Arlington' (and transcribed separately, fig.53) we have the curious harmonic reaction between the F/A chord underneath the 1st violin line of G# and F#. The 'emotional identity' of any chord, as we have discussed elsewhere, is a product of *our* reaction to it. *We* are responsible for how specific harmonic groupings are emotionally interpreted and our reactions are based on chords either conforming to our expectations or countering them. So, in order to understand why the harmony and melodic line in fig.53 causes so much apprehension, we need to figure out the intervallic relationships and harmonic dynamics *within* the chord. Clearly the G# and F# notes are what puncture the otherwise fairly ordinary F/A chord. We could stop right there and simply refer to the G# and F# as dissonance (as flat tenths and flat ninths). But what sets Williams and the other successful composers from the rest of the crowd is that they understand why and how dissonance has the effect is has. To know *that* something you write works is not enough; to understand 'why' is to understand everything. If we look at the G#, this note can act as a #9 over the F chord, which brings it particularly into sharp contrast with the A bass (the inverted maj3rd). But when we listen to a chord we tend to listen disproportionately to the top and bottom notes; these are what help us identify and classify what type of experience we're having.

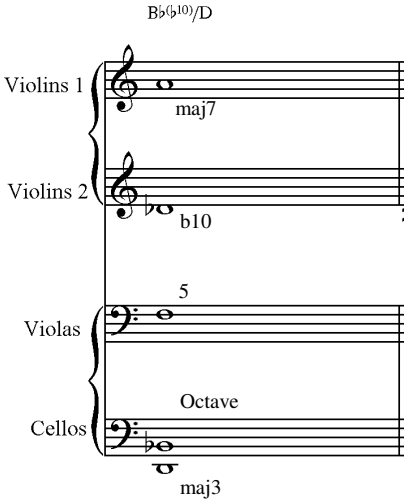
How the notes can be intervallically interpreted

Fig.53



If we follow *that* logic we can hear the chord first chord as an Am with a maj7th (the G sharp). In this context we almost hear the F cello note as a min 6th of the Am. In yet another parallel harmonic context we can see the top three notes as representing an Fm chord. The fact that there are at least three ways of interpreting the first chord, which creates varying degrees of dissonance, goes a long way to explaining the peculiarity of the chord and why it produces such feeling of apprehension and fear; it causes apprehension because it uses dissonance *and* it causes an emotional response we can't easily fathom. The second chord features the same bottom three notes but with an F# on top. This creates a more dissonant feel than the G# because the clash between *it* and the lower F can barely be rationalised *at all*. If this chord had come first the reaction between the two chords might be different.

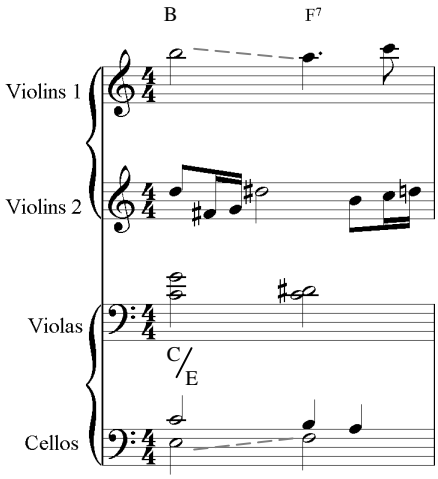
Fig.54



In bar eight of the original transcription (and as a semibreve chord in fig.54) we have a Bb/D chord with the unusual extensions of b10 and maj7.

(maj7)
The chord is probably 'heard' as Bbm given that the low D is barely audible. Certainly this chord symbol is a more 'phonic' interpretation of the chord. As if all that wasn't enough, the interval between the top two notes (the min3 and maj7 of the Bb chord) also function as a maj3 (C#) and root (A) of an A chord. These are not simply abstract theoretical possibilities which have no function outside music theory; the various different ways we can interpret abstract harmony form the basis of how we, as listeners, attempt to classify such chords, regardless of whether we know or understand the process or the eventual names of the various note groupings. It is this almost impossible mental act of aural cognition which lends the chord such a difficult identity. Non-readers and readers alike are attempting the same task; they are attempting to deduce order from what sounds like chaos. The point is that this is not chaos; with Williams everything is deliberate. Everything is there for a reason. This is controlled, choreographed dissonance. Film music is by design, not accident.

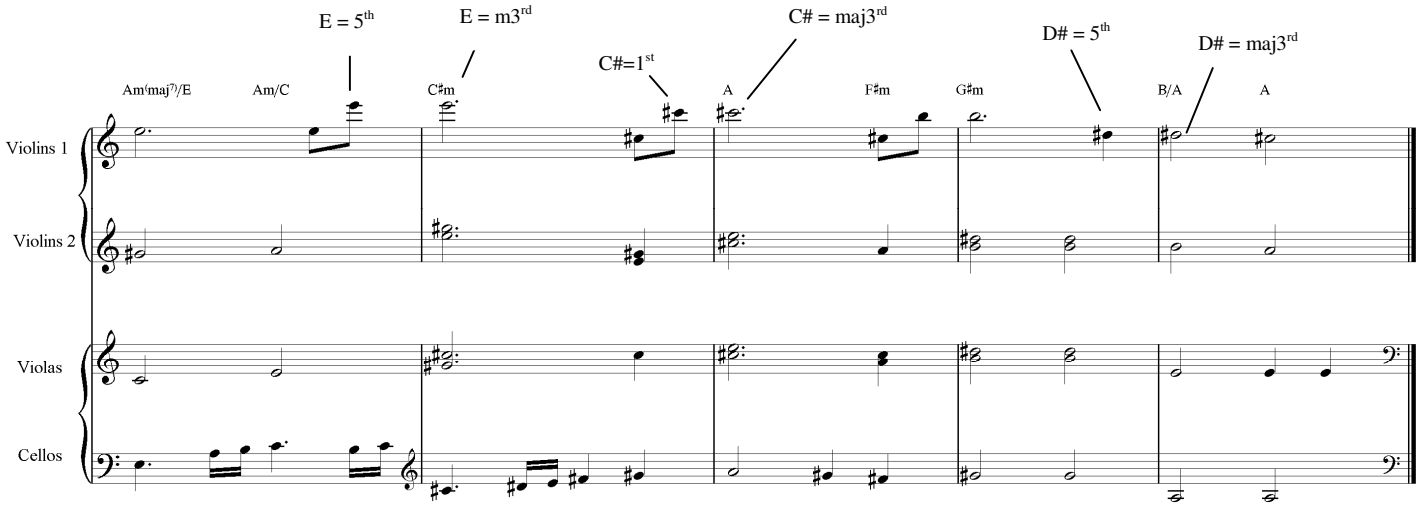
Fig.55



The chord (by which I mean the first two beats) in bar fourteen of the original transcription (transcribed separately, fig.55) creates some interesting abstract colours, harmonically; from the bottom upwards we have a C/E chord, but on top of this (beat 2) the D# and B notes appear together, which, when listening to the chord, seem to function and interact as the maj 3rd and 1st of a B chord. This polyharmonic schism between C and B chords is made more dramatic by the inverted E bass note. What also makes this sequence effective is the way the tension is heightened by the move from the first chord to the F7 chord, with the top and bottom voices of the chords acting in contrary motion (highlighted).

In bars twenty two to twenty six of the original transcription (transcribed separately below, fig.59) we see a particularly vivid example of Williams' warm romanticism; the harmonies interact well, pivoted as they are aloft a beautiful cello line, rising inexorably upwards to a peak at the beginning of bar three (of fig.59). What is particularly noteworthy about this sequence is its great sense of evolution and feeling of almost effortless inevitability.

The drama is entwined in the cello line, moving through its register, but the supporting chords and instrumentation play their part; the intervallic context of the E note on violins evolves from being the 5th of the Am (bar one, fig.59) to the min 3rd of the C#m (bar two) which creates drama because the note *itself* remains static. From a supporting harmony perspective perhaps the greatest harmonic drama is to be found when the C# note stating the octave (violins, bar two, fig.59) 'resolves' to the distinctively rich maj3rd interval (bar three) whilst remaining on the same note. Another notable harmonic gesture is to be found in bar five (fig.56) in the B/A chord where violins state the 1st and maj3rd of a B chord and the cellos and violas state the root and 5th of the A chord. This classic transitory chord is effective in paving the way for the consonance of the 'resolution chord' of A at the end of the sequence. The 'B and A' elements of the B/A chord are incomplete (the B features only root and maj3rd whilst the A features only root and 5th). If both chordal statements had been 'full' and complete of root, 3rd and 5th the chord would sound a little too full, more abstract and more polyphonic. What Williams' version of the B/A chord does is subtly hint at both the B and the A chords.



Music from the cue 'Arlington' comes again (02.01.34 in the movie) without the distraction of dialogue, as Garrison's informer walks off, leaving the District Attorney to ponder the information he's just been given. The 'romantic section' (fig.59) comes again (movie - 02.01.45) as Garrison stands over the grave of the fallen President. The distinctive pained and tragic air of the music acts to exquisitely distil the entire narrative of the film into one solitary poignant moment in time.

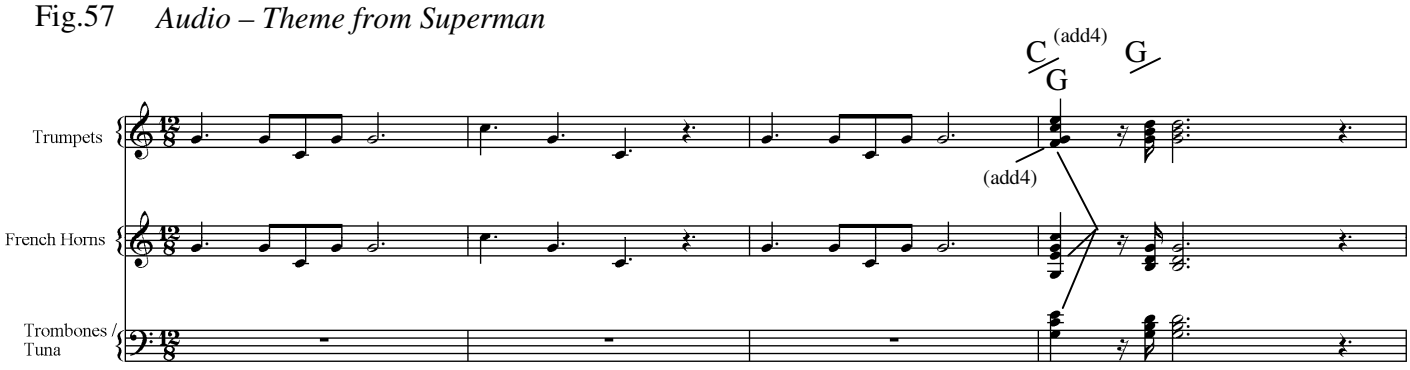
A major characteristic of Williams' writing is the way he injects subtle and almost undetectable harmonic nuances and colour into the undergrowth of music which is more memorable for its thematic content, offering brief and barely audible snippets of tension. I say this because although we hear music from *Superman*, *Star Wars* and *Raiders of the Lost Ark* through the prism of their wonderfully communicative melodic content and bright instrumentation, what also defines them harmonically, and what is much less known, is the colour inherent in the accompanying harmony which delivers the famous melodies. This is why I have chosen to analyse the three aforementioned films within the context of *this* chapter, which deals with intricacy, sophistication and complexity.

Superman *(John Williams)*

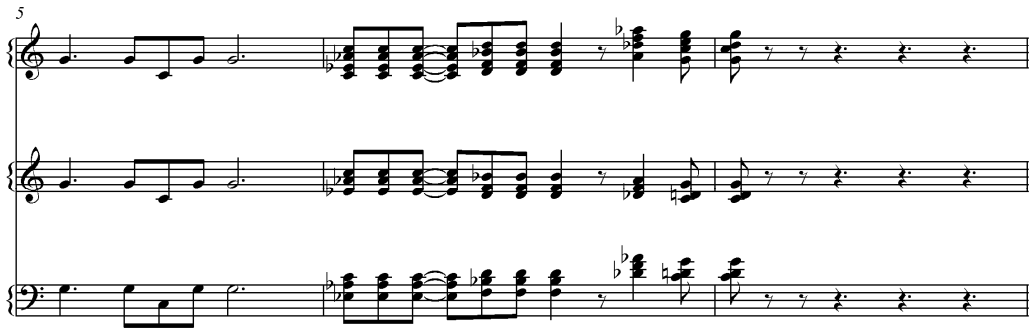
Sudden bursts of harmonic colour

An odd burst of harmonic colour is to be found in bar four of the *Superman* theme (transcribed below, fig.57), where a chord of C/G is 'joined' by the F note (4th) on trumpet. This is one of the ways Williams creates tiny 'micro colours' which ever-so-slightly alter the complexion, balance and perception of harmony. The added 4th clashes with the E (maj3rd) as stated by 1st trombone and 3rd horn (highlighted)

Fig.57 *Audio – Theme from Superman*



Timpani - C throughout ……

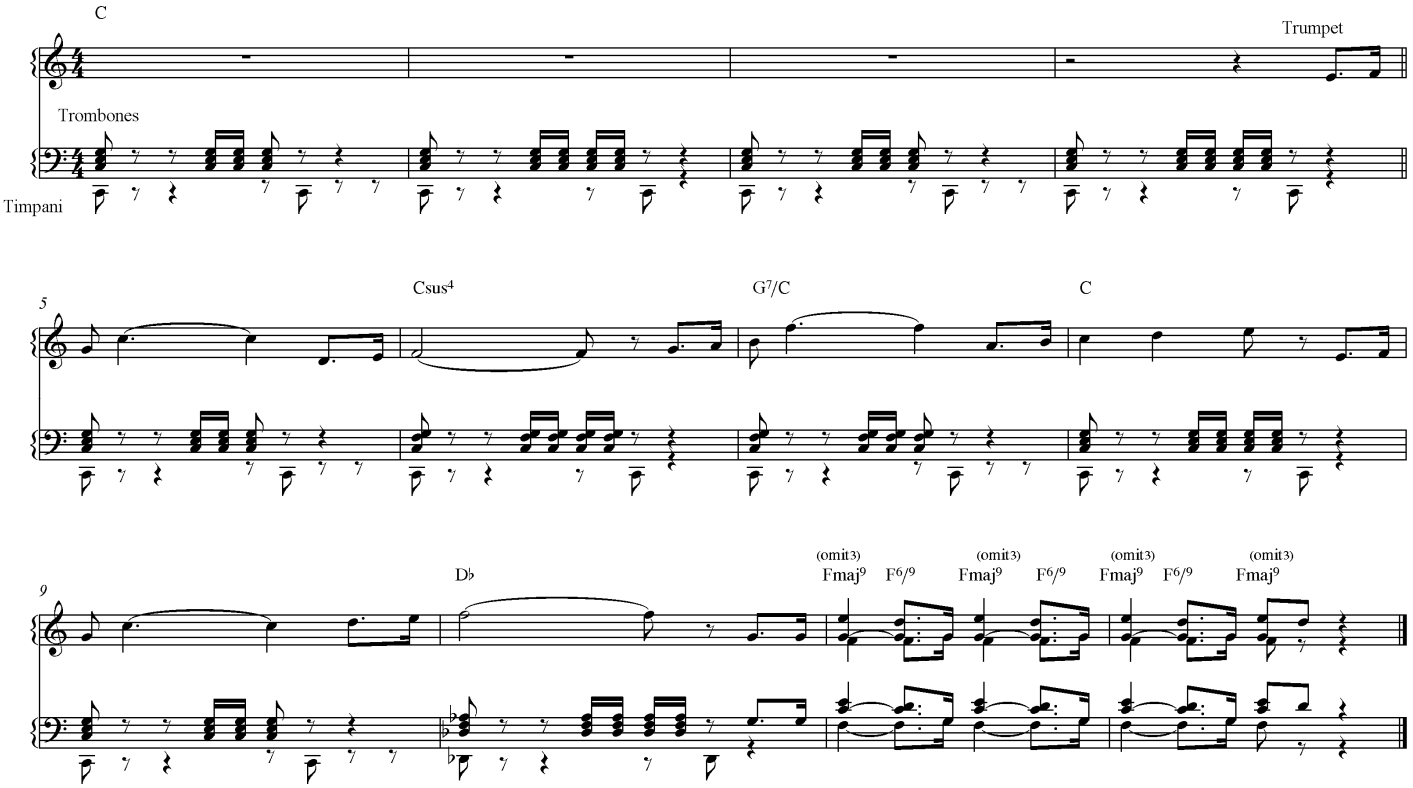


Why does the added 4th 'work', given that it disrupts the harmonic integrity of the chord? The dissonance of the maj3rd / 4th clash is so brief and almost imperceptible that it is more of a sonic burst of colour/energy than 'music'; it is almost percussive. It breaks the regular, ordered and 'square' roots and fifths which come before but it does it so quickly that it functions almost as a splash of abstraction in an otherwise (thus far) harmonically fairly monochrome piece which has relied on instrumental, rather than harmonic, colour.

Raiders of the Lost Ark *(John Williams)*

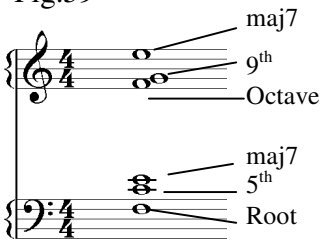
The same type of splash of harmonic colour happens in bars eleven and twelve of the Raiders opening, again featuring brass.

Fig.58 *Audio –'Raiders March'*



The first and third crotchet of bar eleven and twelve (fig.61) features the top line E melody (maj7) but there is more than a whiff of dissonance caused by the middle three-note cluster which puts the maj7 next to the octave (E, F) underneath the 9th (G). This grouping is made starker by the *lack of a maj3* to soften any of the harmonies, creating a bare 5th interval between the low F and C. The chord is transcribed separately as a semibreve (fig.59)

Fig.59



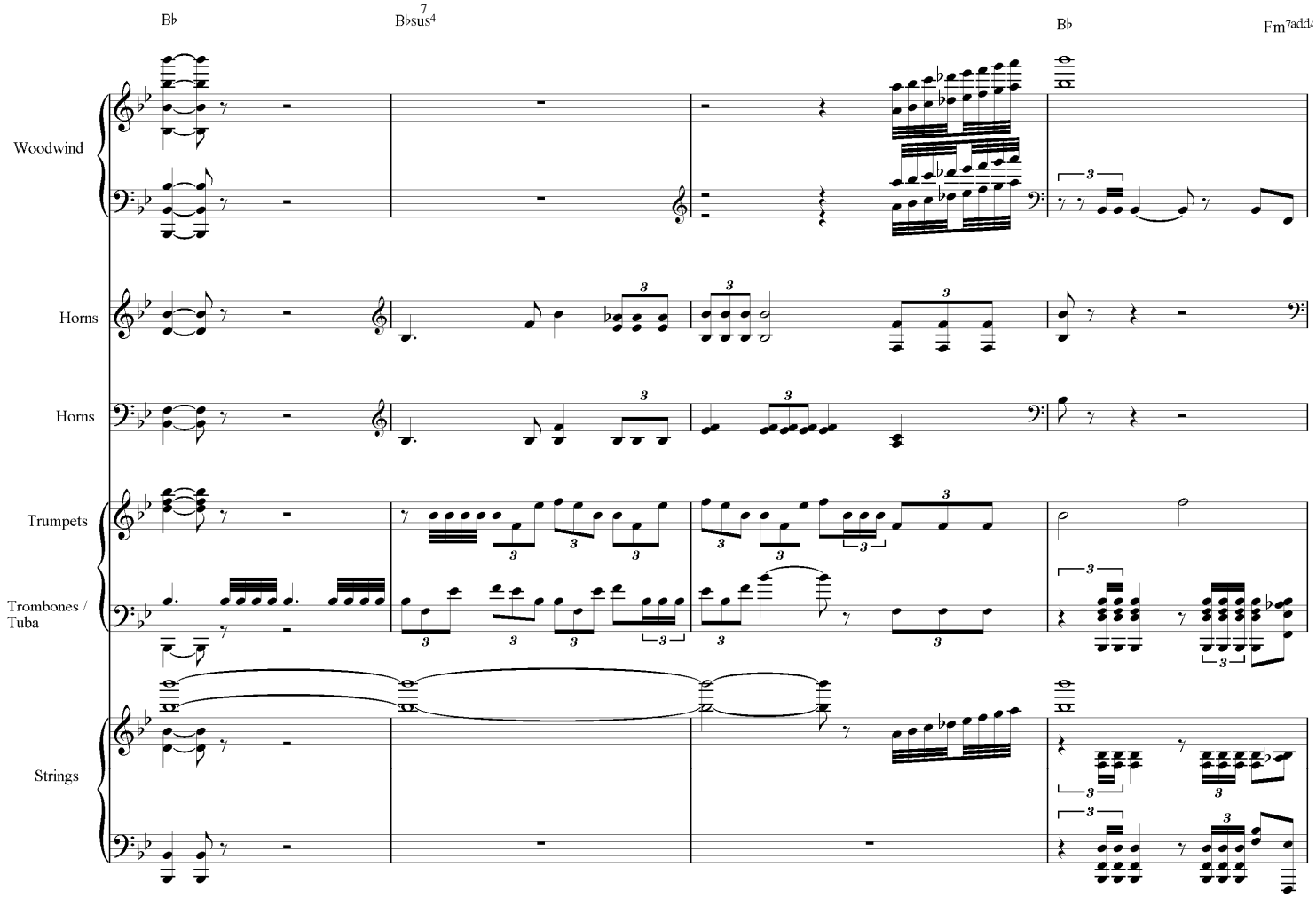
Star Wars *(John Williams)*

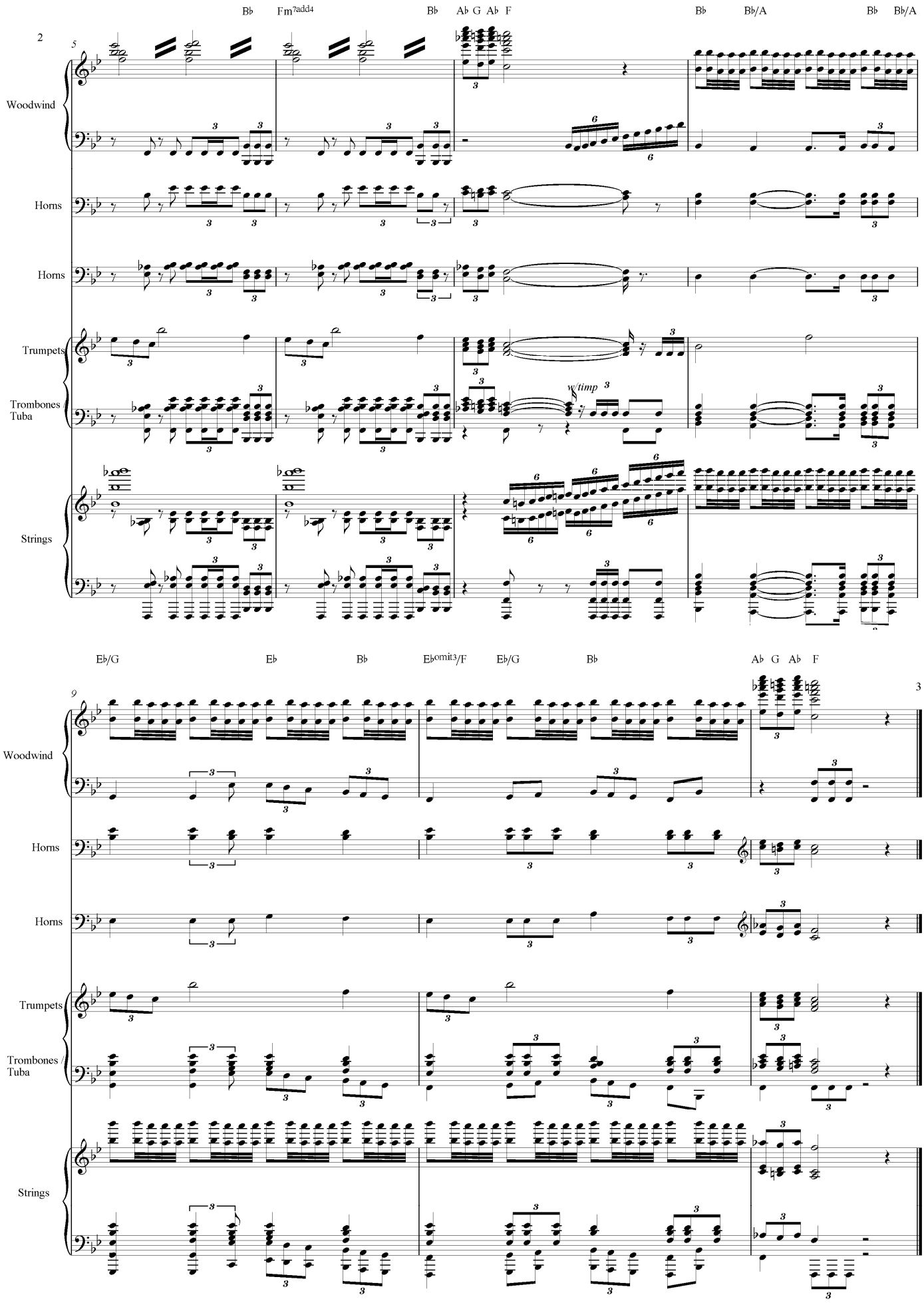
Williams weaves subtle harmonic intricacies into the supporting chords underneath the main theme of *Star Wars* which inject a sense of colour, evolution and pace to the accompanying harmonies of the opening of cue.

When we listen to this famous opening fanfare and theme from *Star Wars* we tend to pay scant attention to the accompanying harmonies, seeing them as purely supportive to the main theme. But closer scrutiny shows the complexity, intricacy and density within the undergrowth of supportive harmonic colour. Starting with the opening fanfare, who would have thought a Bb7sus4 chord could ever have been this exciting?

The excitement is partly in the delivery; the instrumentation is delivered like bullets out of a gun; the distinct and vivid colour of the 7th chord with the sus4 is delivered horizontally, not vertically. The sus4 element makes the harmony unresolved and unsettled. The 7th (in this case the Ab of the Bbsus4 chord, articulated by the French horns) creates a bare 4th between it and the Eb underneath.

Fig.60 *Audio – Star Wars Main Title*



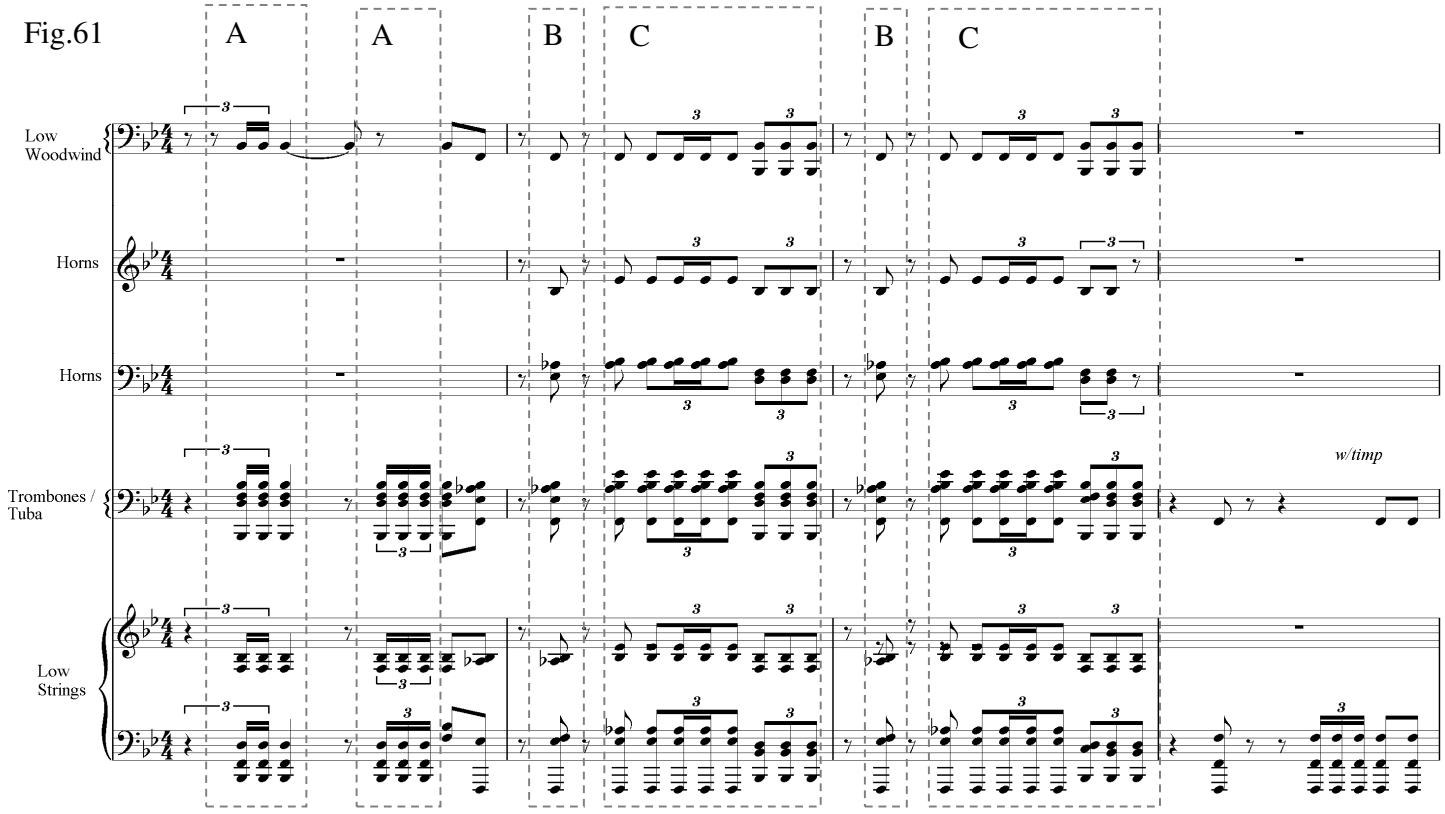

2
5
B♭
Fm7add4
B♭
A♭ G A♭ F
B♭
B♭/A
B♭
B♭/A
Woodwind
Horns
Horns
Trumpets
Trombones
Tuba
w/timp
Strings
E♭/G
E♭
B♭
E♭omit3/F
E♭/G
B♭
A♭ G A♭ F
9
3
Woodwind
Horns
Horns
Trumpets
Trombones
Tuba
Strings

Moving to the part of the piece which has the iconic theme and looking at bar five of fig.60 particularly, the interplay between Bb and Fm7add4 is particularly interesting. The add4 is the telling factor. In context of an Fm7, the add4 is the Bb, which means the chord shares two notes (Bb and F) with the original Bb chord. The difference between the two chords is minimal enough for it not to unsettle the theme on top but enough for it to inject some splashes of harmonic colour. Because of the scarcity of their delivery the two chords are almost like subtly different versions of the same thing. The rhythmically unsettling nature of the harmonies means the two chords (Bb and Fm7add4) are delivered in bursts, which means that as listeners although we hear and respond, we don't analyse. Had the chords been stated as stationary minims, their colour would be revealed which then takes our attention from the melody. From bar eight onwards again we see how the harmonies underneath have their own journey; their movement acts not just to vary and slightly blur the harmonic accompaniment; the bass contour in particular acts to create a real feeling of momentum and evolution, which supports the melodic line.

How the art of orchestration delivers the sound of music

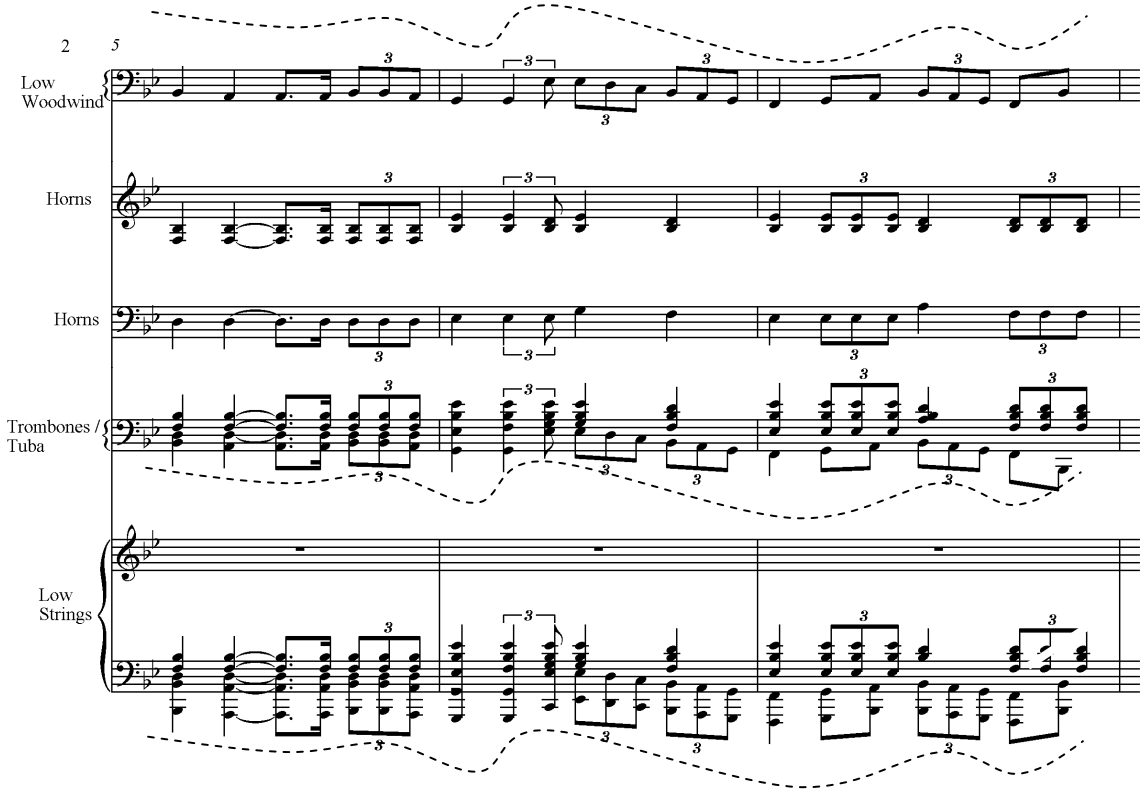
Another thing to mention whilst we're discussing the main *Star Wars* theme is to highlight once again, just as we did with *Jurassic Park* and *E.T.* how the art of orchestration delivers the sound of music. Below (fig.61) we have an abbreviated transcription of the piece which begins on what *was* bar four of fig.60 where the main theme began. But this transcription shows only the main supportive harmonies, not the tune. What we're looking at essentially is how different sections of the orchestra 'stack up' in articulating what are virtually identical harmonies, voicings and rhythms.

Fig.61



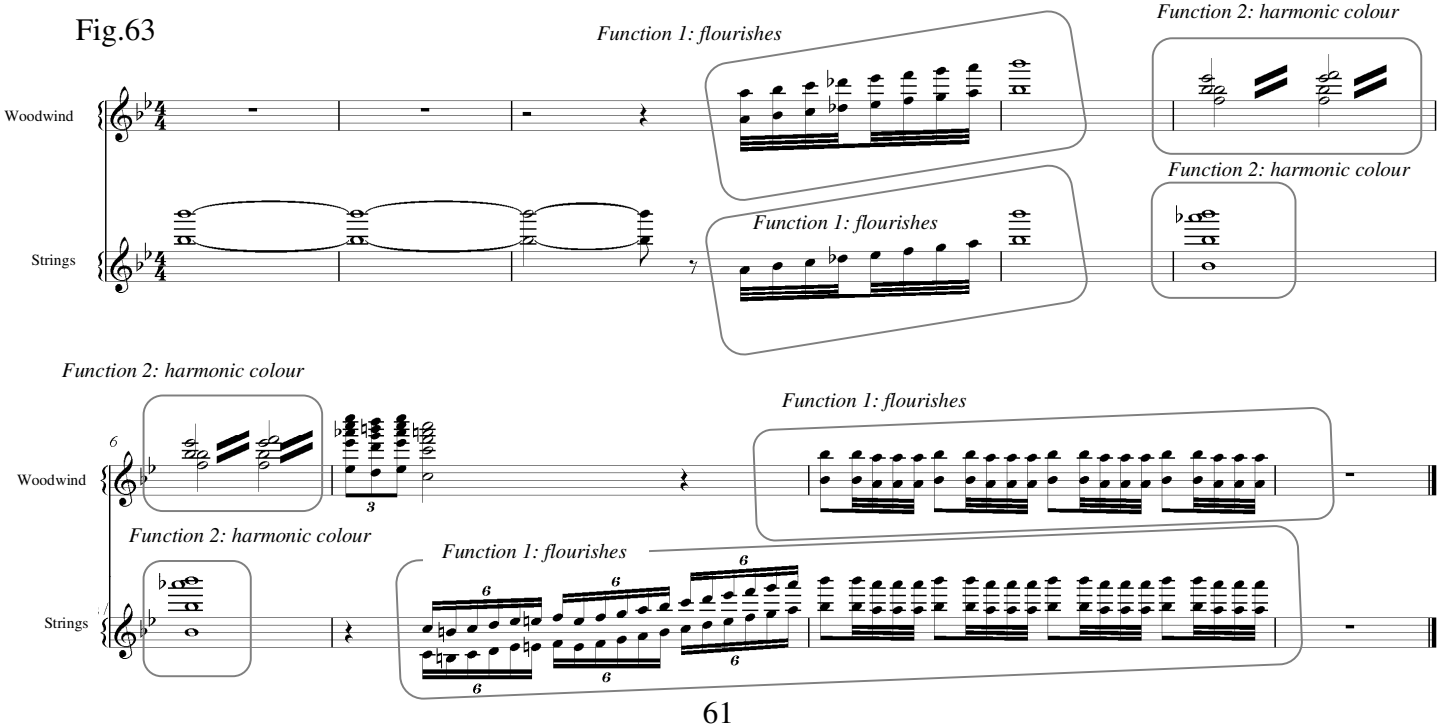
If we now concentrate (fig.62) on the other supportive instrumental, harmonic and orchestration context which accompanies the melody we can see that they too have similarities.

Fig.62



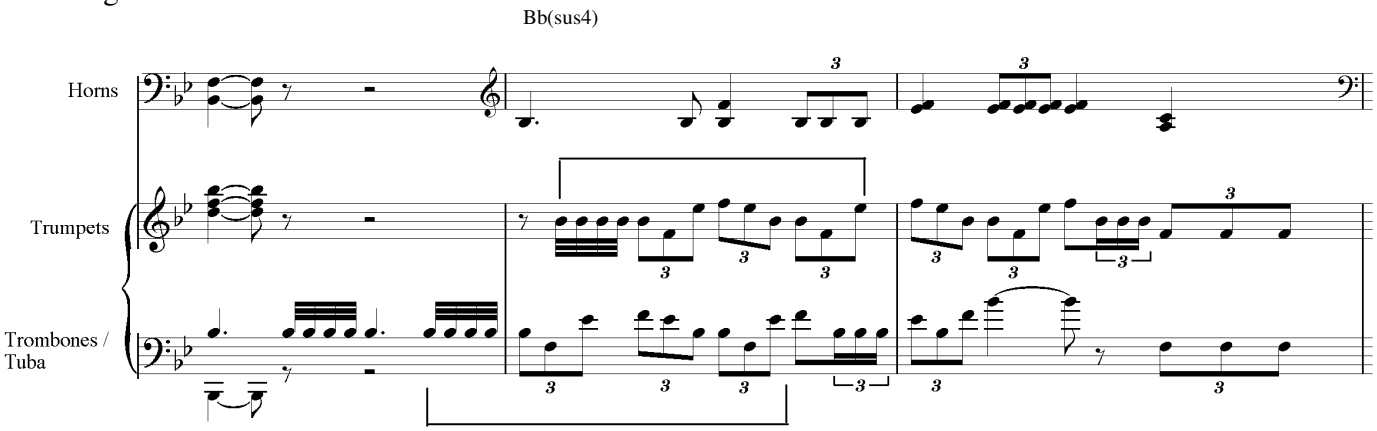
The usual Williams instrumental flourishes (semiquaver and demisemiquaver runs) we see in *E.T.* and *Jurassic Park* are here and are articulated by strings and woodwind. What's interesting to note is how the strings and woodwind are divided up into differing *functions*. In fig.62 we saw the lower end of strings and woodwind concentrating on articulating the harmonies and distinctive rhythmical phrasing whereas in fig.63 we see the higher register of strings and woodwind concentrate on the flourishes and articulating the complex harmonies in the high register. The point being that function transcends section in orchestration; function is of greater importance than anything.

Fig.63



Before we leave *Star Wars* and this chapter it might be good to revisit the 'bullets out of a gun' delivery of the Bb7 $^{(sus4)}$ in the first three bars of the cue. Below is a separate transcription of the first three bars featuring just trumpets, horns and trombones. One of the reasons the chord transmits so vividly is firstly because of the nature of the delivery but also because the trombone phrase which starts just before bar two (highlighted) is repeated, fugue-like, by the trumpets, a quaver after the beginning of bar two. The two phrases are a crotchet apart, which creates further rhythmic variation and rhythmic colour.

Fig.64



Chapter 9

EXCITEMENT & THE GRAND GESTURE

This chapter analyses music which communicates its meaning dramatically and emphatically. Rather than music that transmits gradually, subtly, little by little in a 'slow release' way, the chapter will examine and evaluate the success of music which possesses a sense of immediate urgency and obvious drama. This needn't and doesn't mean that all the music analysed is necessarily 'loud' or 'bombastic'; just that it communicates in dramatic fashion.

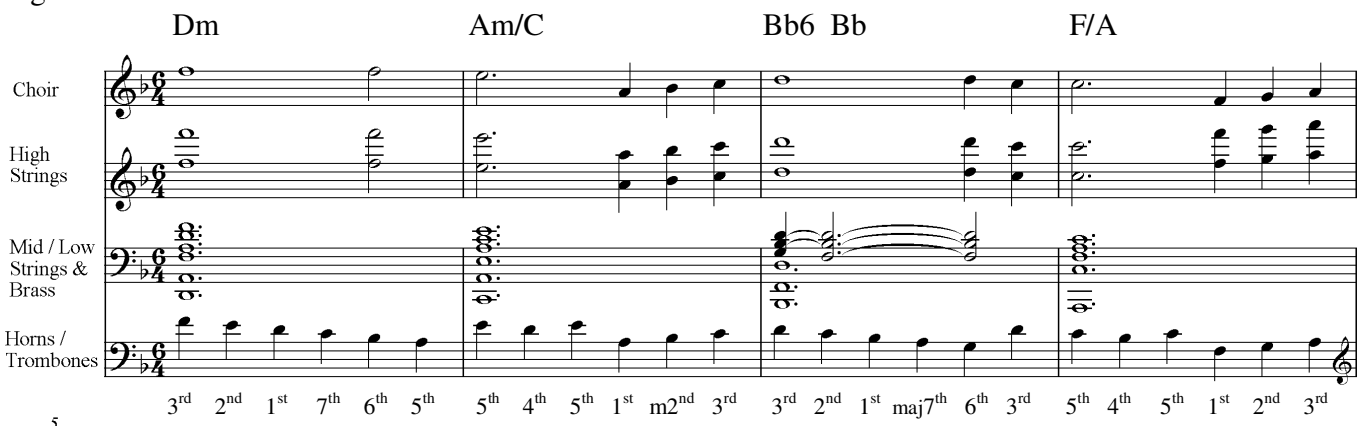
Film Music analysed includes: *Pearl Harbour* (Hans Zimmer) *Batman Returns* (Danny Elfman) *Inception* (Hans Zimmer) *Rocky* (Bill Conti) *The Long Good Friday* (Francis Monkman) *Rocky* (Bill Conti) *Wall Street* (Stewart Copeland) *Mission Impossible* (Lalo Shiffrin) *The Bourne Identity* (John Powell) *Superman* (John Williams) *Love Actually* (Craig Armstrong) *Universal Film Opening* (Jerry Goldsmith) *The Matrix* (Don Davis) *20th Century Fox Fanfare* (Alfred Newman)

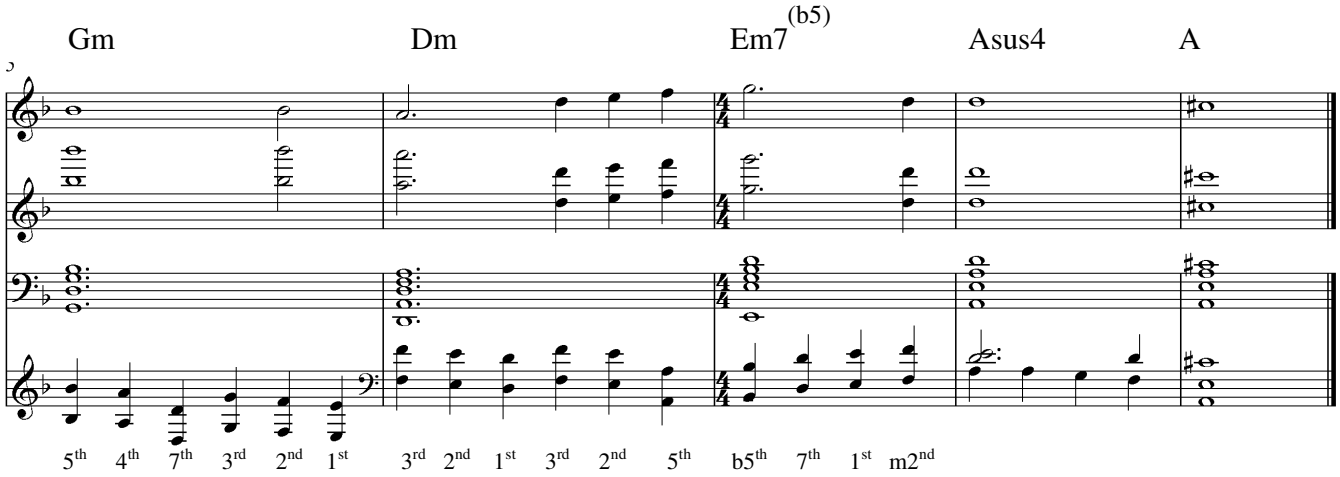
PEARL HARBOUR *Hans Zimmer*

Pearl Harbour is a 2001 Hollywood film; a dramatic reimagining of the Japanese attack on Pearl Harbour. The film was a commercial success but was heavily criticised by critics for historical inaccuracy and overt sentimentality. A. O. Scott of *The New York Times* wrote, "Nearly every line of the script drops from the actors' mouths with the leaden clank of exposition, timed with bad sitcom beats". In his review for the *Washington Post*, Desson Howe wrote, "although this movie is based, inspired and even partially informed by a real event referred to as Pearl Harbour, the movie is actually based on the movies *Top Gun*, *Titanic* and *Saving Private Ryan*. Don't get confused". Such criticism is arguably harsh, given that the film brought an important historical event to an entirely different generation, albeit through the distorted prism of filmed drama.

The orchestral music composed by Zimmer for the film concentrates invariably on the romance and the tragedy of war, featuring cues which are noble, gallant and virtuous, or alternatively romantic, passionate and idealistic in tone, texture or harmony, Track 8 on the soundtrack album, entitled 'War' features the quintessential and superb Hans Zimmer combination of bombastic patriotism, heroism and melancholia. As with many Hans Zimmer tracks, 'War' exudes a feeling of mesmerising weighty monotony countered by great harmonic colour. The potential monotony of the horn line is juxtaposed by the fact that every one of the six crotchet notes in each bar represents a different interval in context of the underlying chord, which in turn changes the precise flavour and context of the chord as each interval is emphasised, especially the extension intervals. Also the repetitiveness of the line is mitigated by the 6/4 time signature which makes the piece less rhythmically cumbersome than would have otherwise been the case.

Fig.1 *Audio: 'War' 0.66*



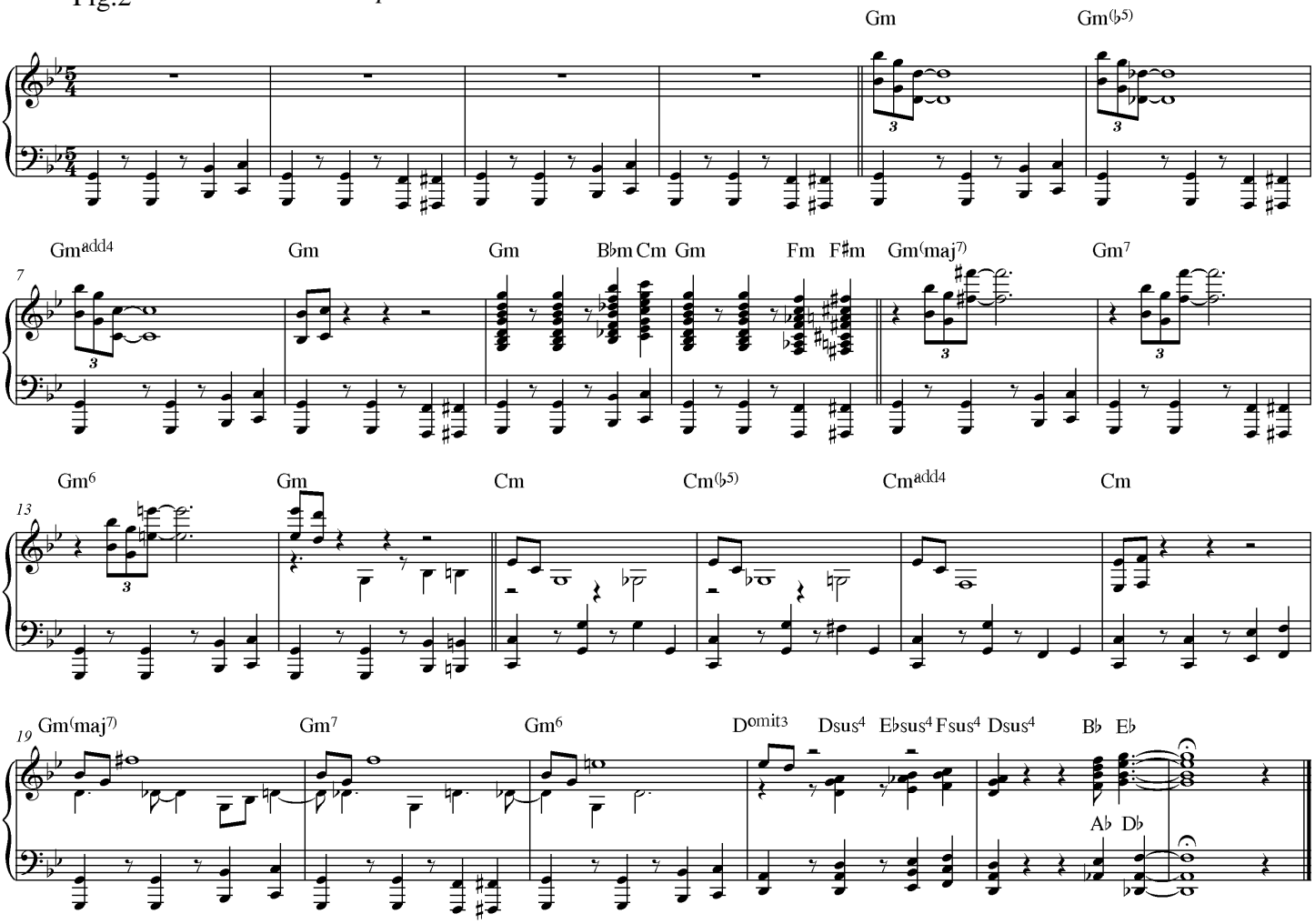


Another important aspect of this piece is the separately functioning and consistently downward arcing bass line (contained in the low strings) made possible by a couple of inverted chords. This is an important observation, and one we have made in other chapters: consistent and directional bass lines function almost like separate melodic lines and in some cases can represent the main way in which people rationalise and enjoy such cues.

MISSION IMPOSSIBLE *Lalo Shiffrin*

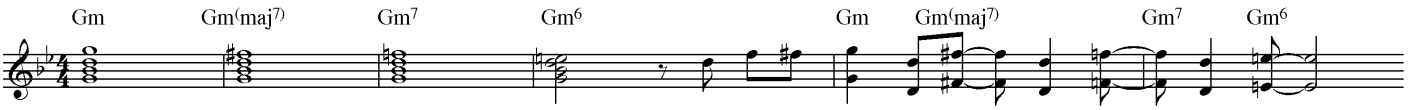
Mission: Impossible was an American television crime thriller/drama series which chronicled the escapades and missions of a team of secret American government agents known as the 'Impossible Missions Force'. An iconic hallmark of the series shows characters receiving their instructions on a recording that then self-destructs, followed by perhaps one of the most long-lasting and instantly recognisable theme tunes in the world, composed by Argentine musician and composer Lalo Schifrin. The theme is noted for being in 5/4 but in terms of the reasons the piece communicates so vividly and profoundly, this is only the tip of the iceberg. The theme was used for the movie franchise starring Tom Cruise.

Fig.2 *Audio: 'Mission Impossible'*



The music personifies the 1960s approach to many American TV cop dramas: fast, furious and with a distinct jazz feel. But why is it exciting? Why does it communicate so vividly and so quickly? Inevitably the 5/4 time-signature on which it is built is both disorientating and different from the norm. The constant and repetitive, thumping bass line really italicises the 5/4 rhythm. The melodic line begins initially (bar five) on the *first* beat of the phrase then swaps to the offbeat (bar eleven), complicating an already complex rhythmical relationship between melody and counterpoint. The overarching ascending contour of the melody is built on extensions which cause tension in the chord (bar five-seven featuring 5th, flat 5th and 4th and bars eleven-thirteen featuring maj7th, 7th and maj6th respectively). These specific extensions lend the piece a distinctive Latin feel, harmonically (as detailed in the theoretical quasi Latin example below).

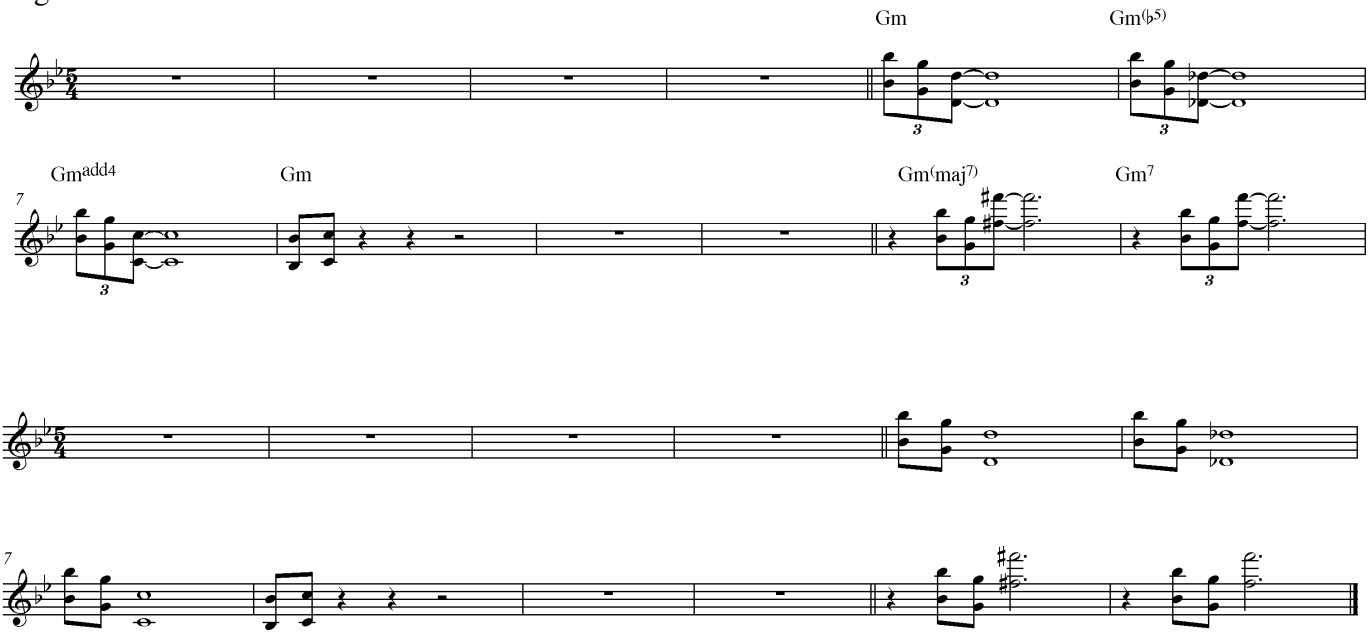
Fig.3



In many ways the *Mission Impossible* melody is more typical of a 'journey' rather than a melody. There is a tremendous sense of anticipation together with an inexorable sense of direction and a feeling of inevitability. There are also some delicious dissonances between simultaneous fifths and flattened 5ths (bars fifteen and sixteen) and further harmonic and rhythmic tensions (bar nineteen-twenty one) between the top melody (which features a maj 7th in context of a minor chord) and also a fluctuation between the 5th and flattened 5th on the counter melody underneath.

As if all that wasn't enough, there is one more seemingly innocuous factor which plays a much bigger and pivotal role in terms of the rhythmic interplay within this piece than might at first be imagined; on first hearing many assume the main melodic figure (from bar five, figure 3 and figure 4) to simply be two quavers tied to a semibreve, whereas in fact the line features quaver triplets tied to a semibreve (as abbreviated in fig.4, below). This might seem a simple observation but when we consider that the rest of the rhythmic context of this piece is based on a pulsating straight quaver feel, the inclusion of a triplet quaver figure runs counter to the feel and explains the seemingly massively laid-back feel of the melody through the piece.

Fig.4



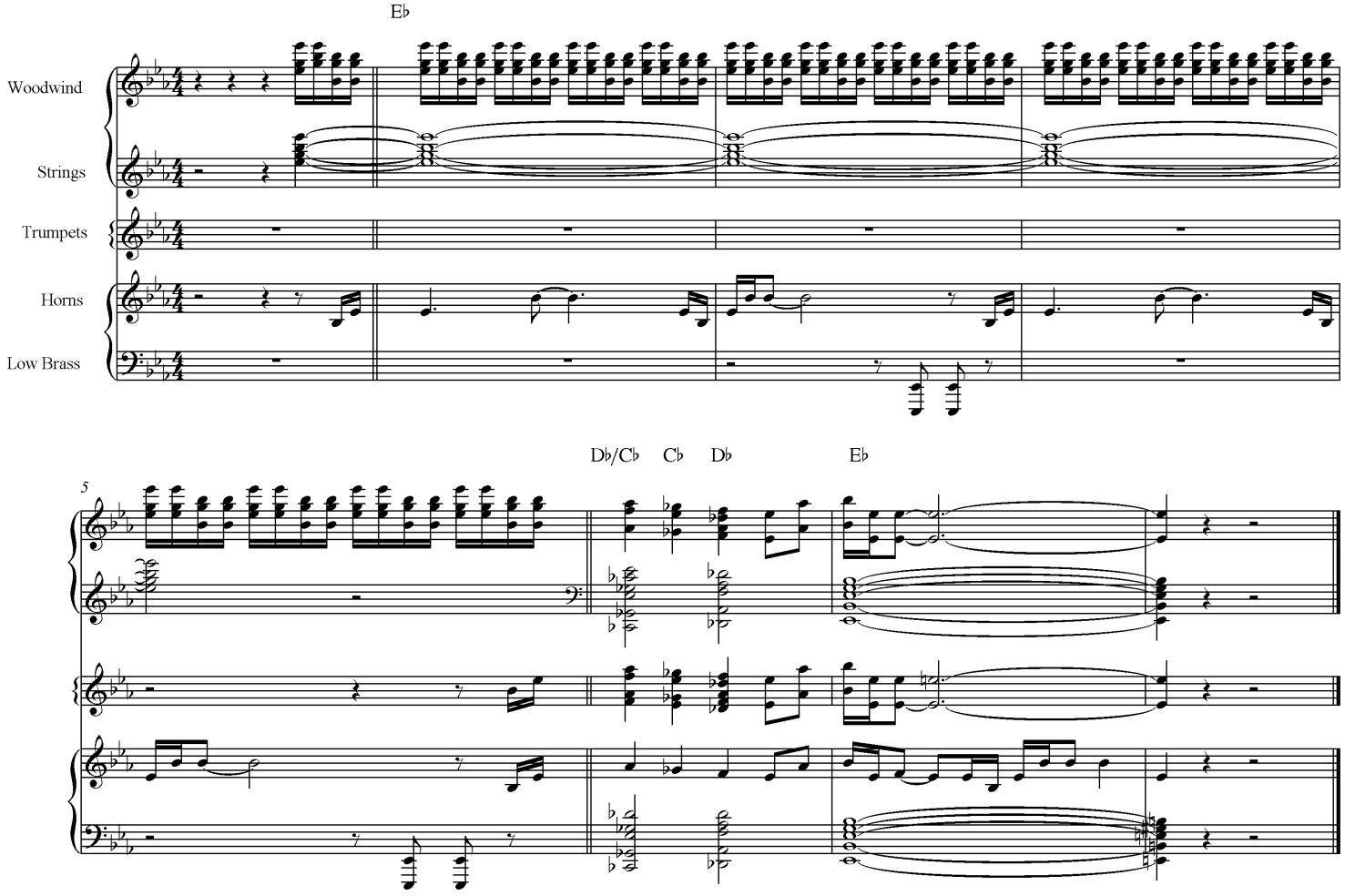
UNIVERSAL PICTURES OPENING SEQUENCE *Jerry Goldsmith*

'Event Music' in a modern context

In 1997 Jerry Goldsmith composed a new theme to accompany the Universal Studios opening logo – a piece which has by definition been heard hundreds of thousands of times at the opening of hundreds of thousands of Universal films all over the world. The fanfare theme, although short in duration, manages to capture a real and tangible sense of drama and creates a grandiose and stately feeling, whilst also encompassing euphoria, jubilation and exhilaration. It succeeds in 'preparing' an audience perfectly for an impending film experience.

When we think of 'event' music we tend to think of the classical tradition (perhaps 'Music for the Royal Fireworks', 'Water Music' or the 'Christmas Oratorio'). In a modern context there are few better examples of 'event music' (or perhaps a better term is 'preparation music') than Goldsmith's 'Universal Opening'. This piece has literally prepared millions of cinemagoers for the films they watch and hear.

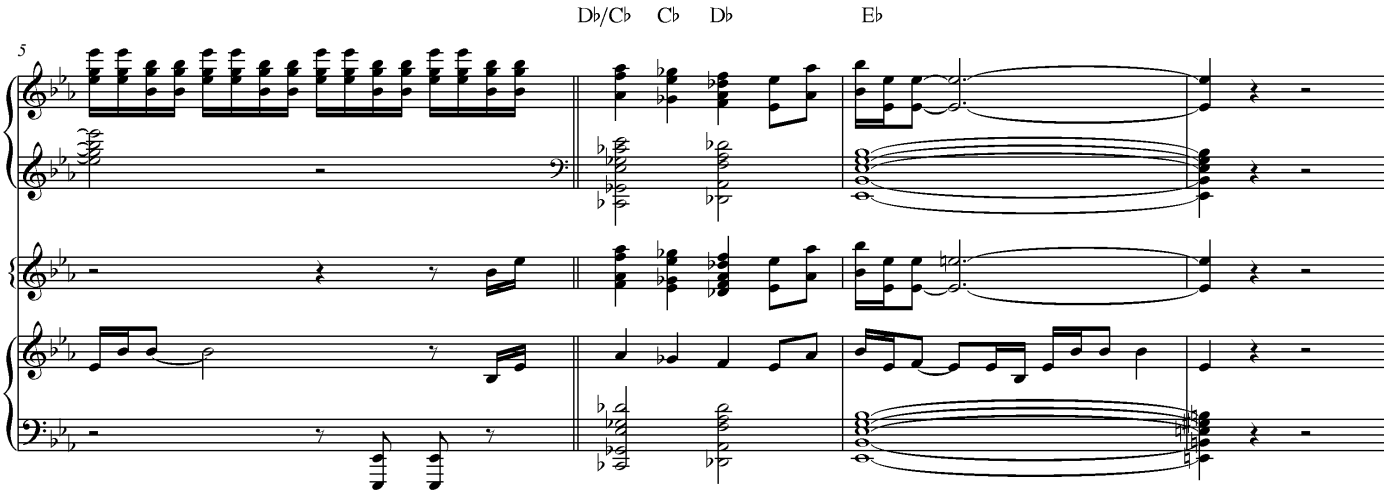
Fig.5 *Audio: 'Universal Opening'*



Musically everything within this piece is subservient to the horn fanfare itself - resplendent and peppered, *Superman*-like, by root and 5th intervals - which exude a sense of authority. When listened to its not easy to place where the horn beats fall rhythmically; a combination of the string chord and woodwind semiquaver lines offers no solid 'beat' framework. Instead we are transfixed by the sheer power and might of the root and 5th interval message, not the confounding intricacy of its rhythmic context and delivery.

But ironically *without* such confounding intricacy we perhaps wouldn't be as enamoured by the fanfare. In context of its role as 'event music' and 'preparation music', a fanfare alone would not explain the curious drama and excitement created by Goldsmith's music. Above all, how it 'finishes' is crucial. It needs to create excitement, drama, *anticipation* and then finish strong. As listeners it needs to engage us, perhaps make us work harder, to titillate our senses and challenge our expectation then deliver us to the film itself. With this in mind, examine how bar two of the edited theme below blurs our expectations and anticipation, distorting our sense of probability. A simple Cb to Db finishing harmonic sequence would have been far too simple and obvious. Of the chords used in the climactic section toward the end (Db/Cb, Cb, Db and Eb) the passing 'slash chord' of Db/Cb is the crucial one. It alludes to the Cb but creates a great and brief sense of real drama and anticipation. It does this is by virtue of the pedal note of Cb (remaining through the chords of Db/Cb and Cb); we hear the Cb bass note in two contexts, firstly as the inverted 7th note of the Db chord and then as the root note of the subsequent Cb chord. This brief exchange and intervallic interplay creates a momentary dramatic harmonic deviation. Such in-depth analysis and supposition may seem indulgent but it goes to the centre of how and why music communicates in such a forensic way.

Fig.6



INCEPTION *Hans Zimmer*

Inception is a 2010 science fiction film directed by Christopher Nolan. The film features a spy whose work consists of stealing information from the unconscious mind of people while they dream – 'inception' being the implantation of an original idea into someone's subconscious.

One of the most captivating tracks from the soundtrack album is 'Dream is Collapsing'. Many of the images and much of the narrative of the film is disorientating and abstract, and to an extent this piece mirrors the abstraction. We are all hostages to the powerful and dominating influence of convention, particularly harmonically. We respond to a simple diet of harmonic austerity; music which challenges these assumptions and presumptions can sometimes create abstractions. It is often the complex juxtaposing of convention and abstraction which gives music its character. Sometimes if there is something we 'like' or respond, or which catches our attention in music it is usually an example of how the piece deviates from what we expected. If such deviation is closeted within a sense of surrounding conformity and normality, it can be all the more effective.

Music which did nothing *but* constantly surprise and confound us would be difficult to listen to, just as formulaic music which does nothing *but* confirm our expectations can bore us. As an example, most music we listen to will not deviate seriously from its key centre. Most music does not test our aural cognition and sensibilities. The track below, however, benefits from rapid shift between unrelated key centres (boxed). The chord sequence is further italicised by the simple fact that between bars one-twelve the melody fluctuates only by a semitone, adding to the clinical and unnerving sense of chromaticism.

Fig.7 *Audio – 'Dream is Collapsing'*

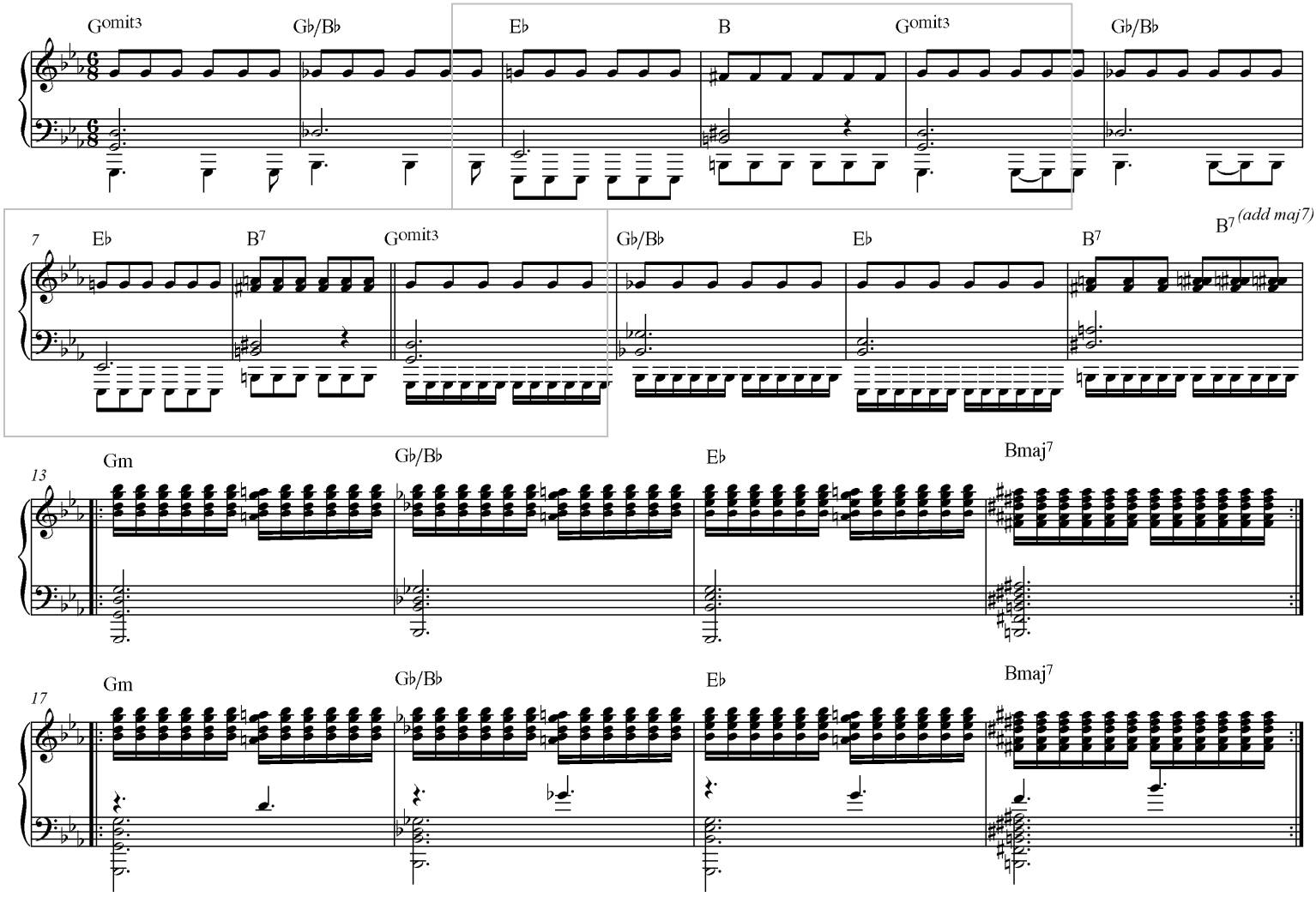
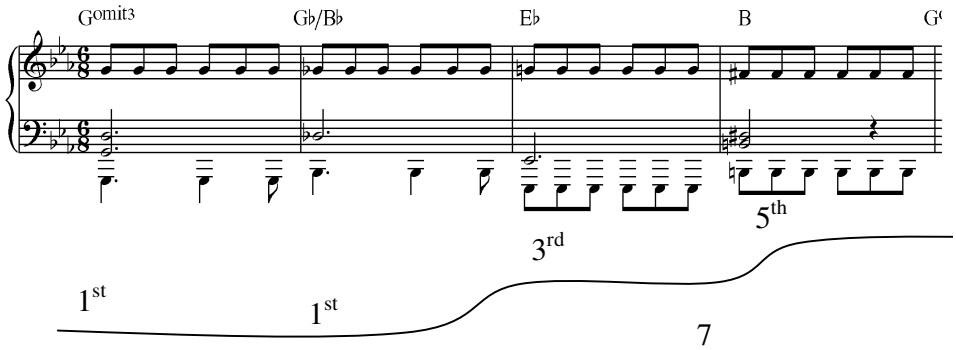


Fig.8

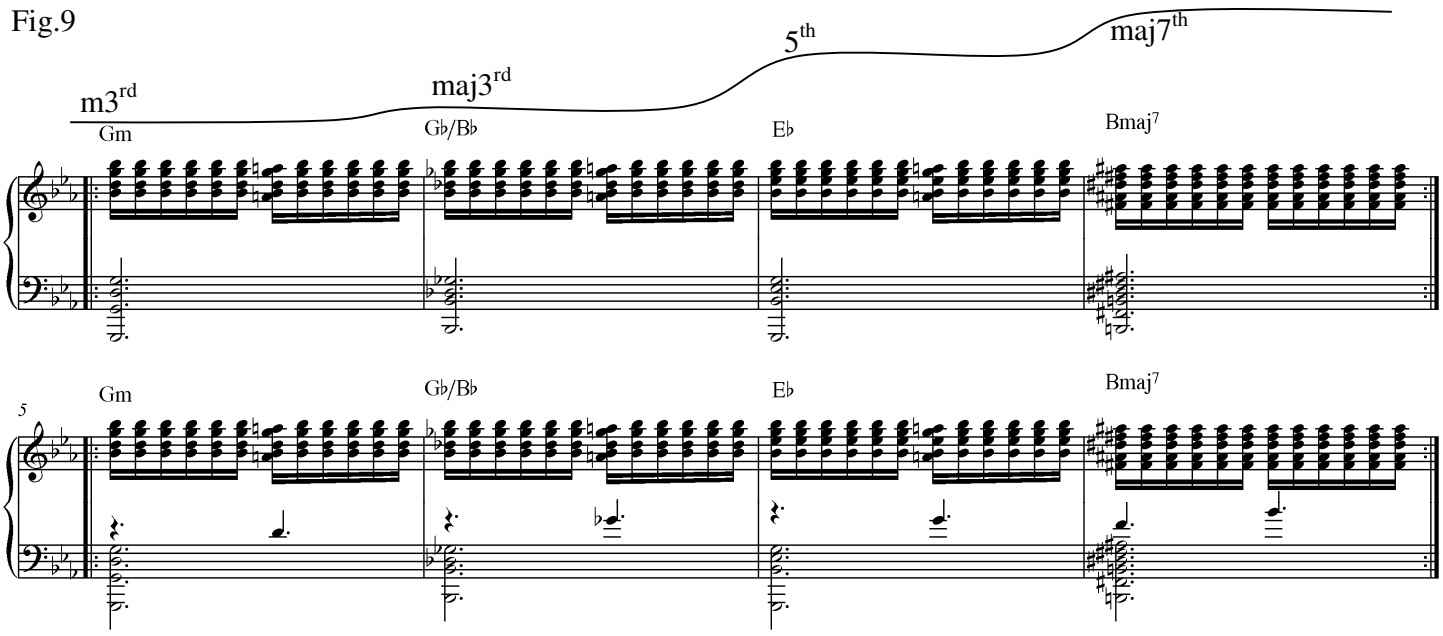


The top contour represents the melody whilst the bottom contour represents the *intervals represented* by the melody.

The melody shifts by a semitone between G, Gb G and F# whereas the intervals stated by the melody, in context of the chord which accompanies them, rises from root, 3rd and 5th

In the example below (fig.9, featuring the last eight bars of fig.7) the top note of each string chord voicing is Bb/A#, which tends to produce a monotonous, repetitious and droning sound. The reason why it *isn't* monotonous, repetitious or droning is because of the intervallic context of the note of Bb/A#, which is not just different but, again, has its own 'journey'.

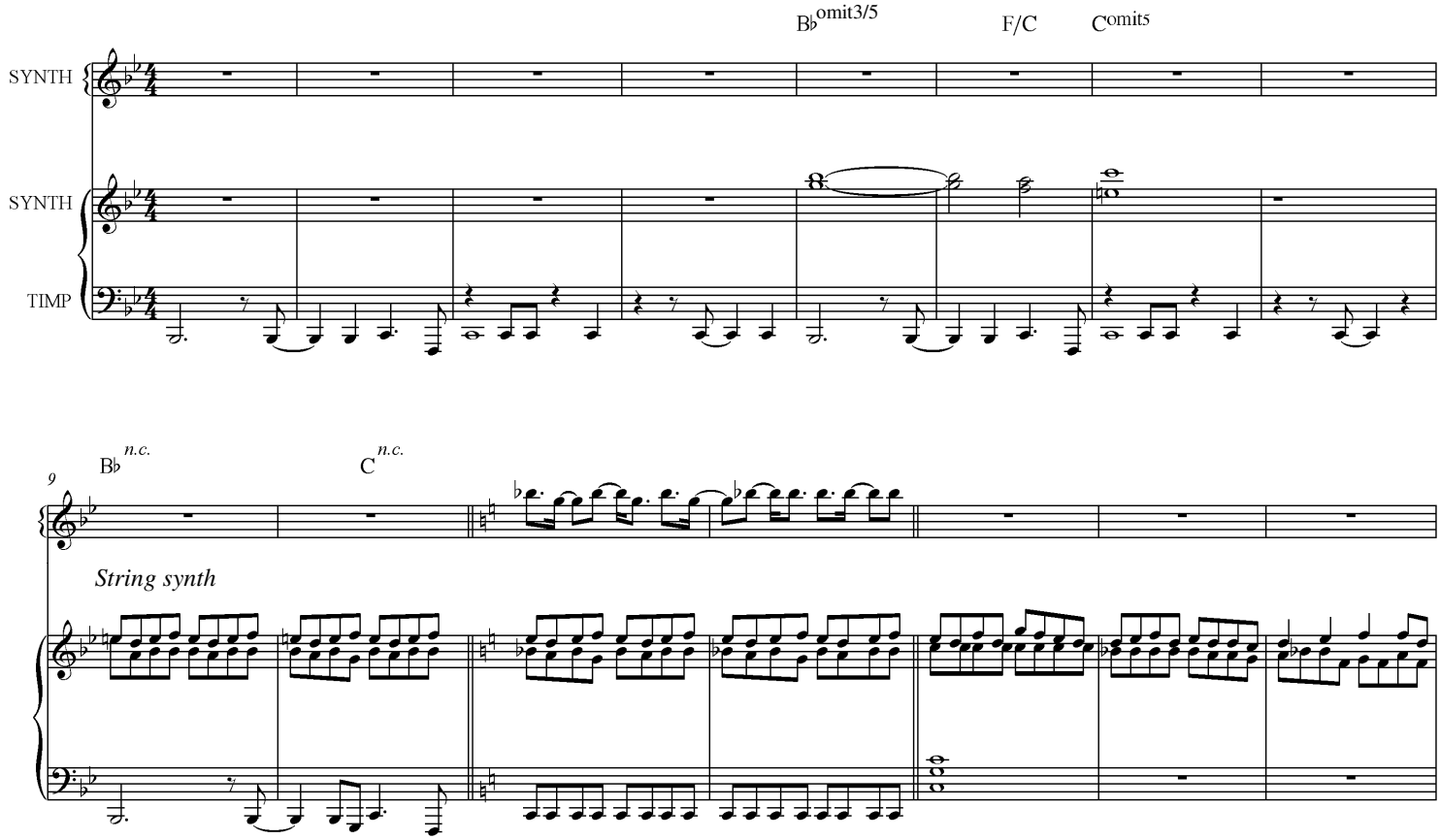
Fig.9



WALL STREET *Stewart Copeland*

Wall Street is a seminal film from the 80s, the narrative of which encapsulated either all that was good or all that was bad about the greed and excess of the decade (depending on your opinion). The film tells the story of Bud Fox, a young stockbroker desperate to succeed, who becomes entwined with a wealthy, unscrupulous and corrupt trader, Gordon Gekko. The film has come to be seen as the archetypal portrayal of 80s excess, with Douglas's character memorably declaring "greed is good". The score was written by musician and composer Stewart Copeland. Copeland's excellent use of layered synth textures and distinctive harmonies are a massive part of the narrative of *Wall Street* and in some respects the music is its own character within the film. Some of Copeland's music has a distinctive edge which manages to describe the cold, corporate jungle well. One such track – perhaps the most memorable of the film – is a track from the album entitled 'Bud's Scam'. Copeland's use of synth textures, partial harmonies and complex percussive parts in this track is crucial in articulating the corporate world in the film.

Fig.10 *Audio – 'Bud's Scam'*

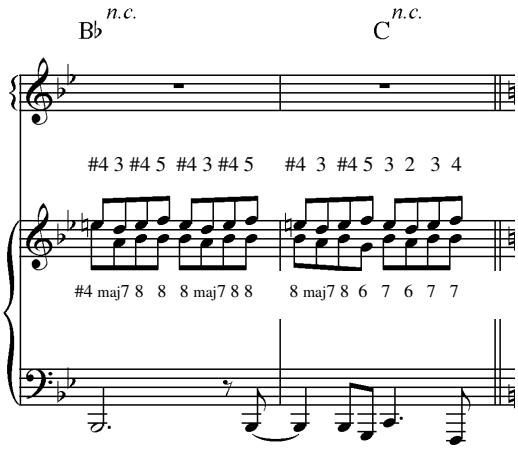


The opening few bars of this piece work well because of Copeland's distinct and precise use of evocative 80s synth textures but mostly due to his use of partial, fragmented harmonies and complex rhythmic relationships. This is evident from the outset; bar five features a chord which is either a Bb6 minus its 3rd and 5th or an inverted Gm minus its 5th. This seemingly innocuous point is important; partial chords deny listeners a complete aural picture. This denial alters the listening experience, making our aural cognition slightly blurred and incomplete, which in turn can make us work harder, provoking interest and creating excitement. The chord in question lasts an entire bar-and- a-half; plenty of time for us to listen and subconsciously attempt analysis, classification and categorisation. These issues may be so beneath the surface as to be virtually undetected and yet the way composers manipulate and weave chords, harmonies and instrumental textures is crucial in understanding how listeners respond. The second chord of bar six is an inversion, followed by another partial chord (the C chord minus its 5th). This repeated denial of the safe and familiar comfort of normality helps the music create an almost undetectable sense of coldness and incompleteness. This aural incompleteness, this strangeness, makes us more susceptible and open to the movie itself.

Sometimes movies need the definite completeness of absolute chords to reinforce the narrative or the pictures but equally certain situations are better rationalised and enjoyed with music which is open to speculation or interpretation. When filmgoers understand fully the musical element of an audio/visual experience there is sometimes a tendency to be lured in and distracted by the sense of familiarity in the music. But when the music is *slightly* or *subtly* incomplete and thus harder to rationalise, it can sometimes excite us, heighten our senses and make us forge a deeper connection between the music and the film.

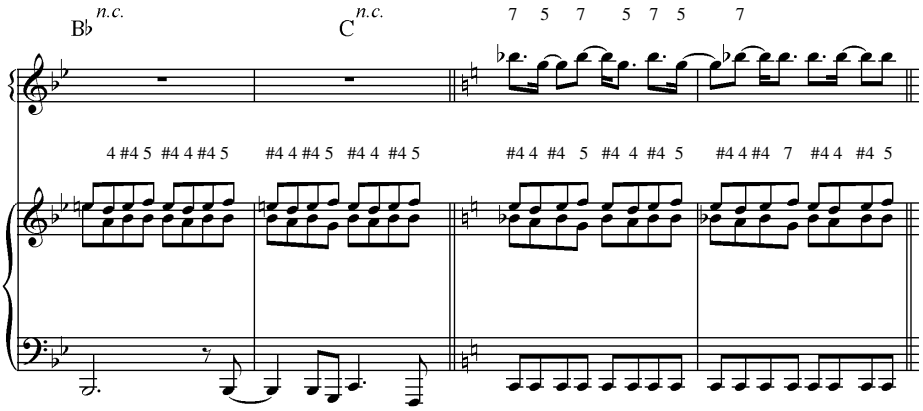
Turning now to the four-bar sequence from bar nine to twelve of fig.10 (featured below, fig.11), we can see how the string synth line and counter-melody operate to deny the music a sense of clear harmonic identity. Much music written to accompany films and television documentaries dealing with the barren and lifeless narrative of the 'corporate jungle' often uses featureless 'square' harmonies devoid of thirds and full of roots, fourths and fifths. More expressive, pleasant or 'nice' music doesn't often 'work' in articulating the 'corporate world'. By contrast octaves, fourths and fifths work well, as does the use of other extensions but *without* the normal accompaniment of the third (for example chords featuring added 6ths, 7ths and even maj7ths can work in conveying a sense of bleak corporatism as long as they are devoid of the usual defining context the maj or min 3rd, which would 'flush out' and traditionally contextualise the colour of the 6ths, 7ths, maj7ths etc).

Fig.11



If we examine the intervals 'struck' by the melody and counter melody on the string synth part (in context of the chord implied by the bass note underneath) we can see that although they *do* feature occasional brief 3rds, the line is littered with octaves, maj7ths, #4s, 7ths, 6ths and 5ths.

Fig.12



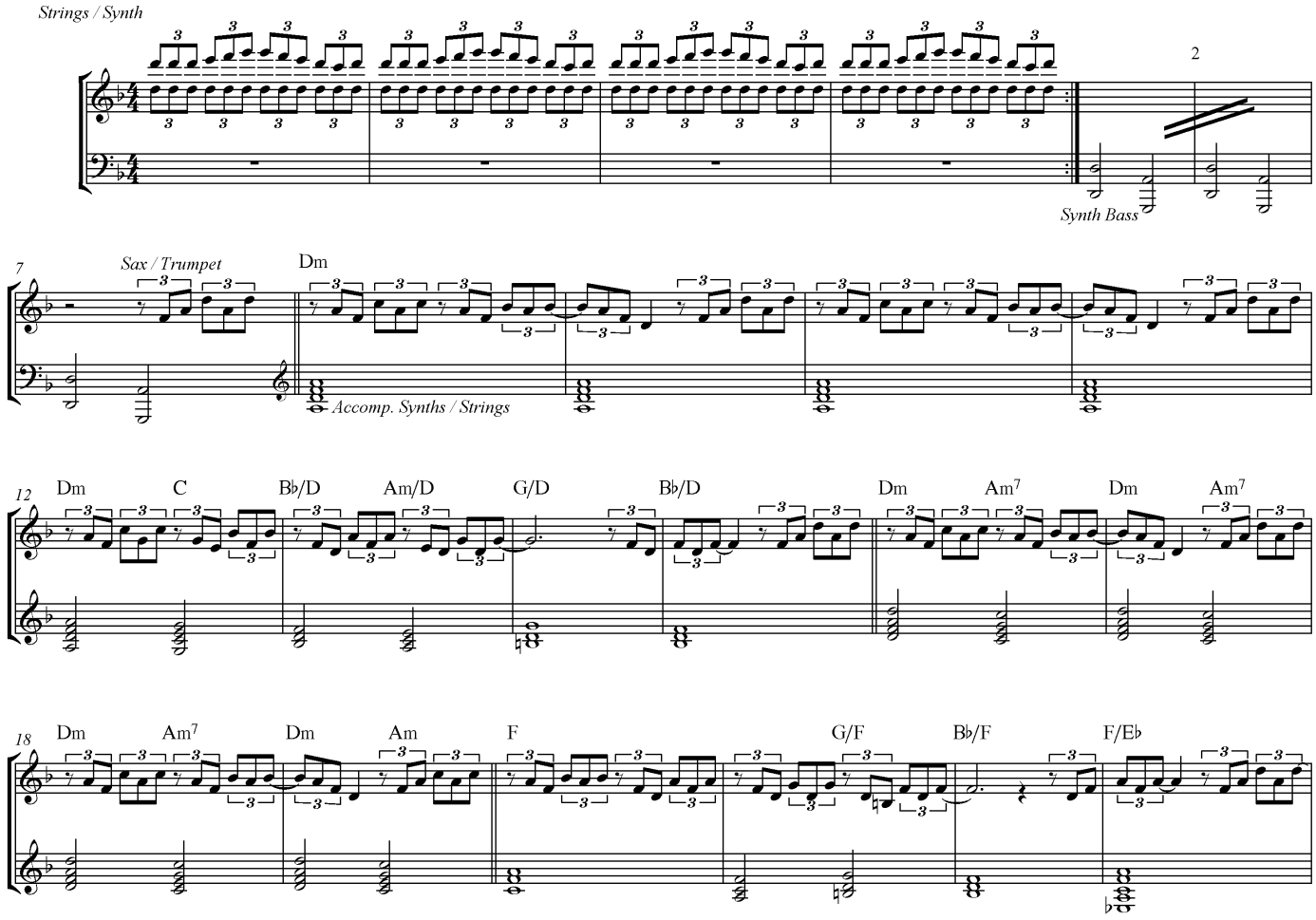
Add to this complex array of intervals that exists *between* the top line of the middle stave and the line underneath, and we have a further level of harmonic complexity which reinforces the abstraction caused by Copeland's music

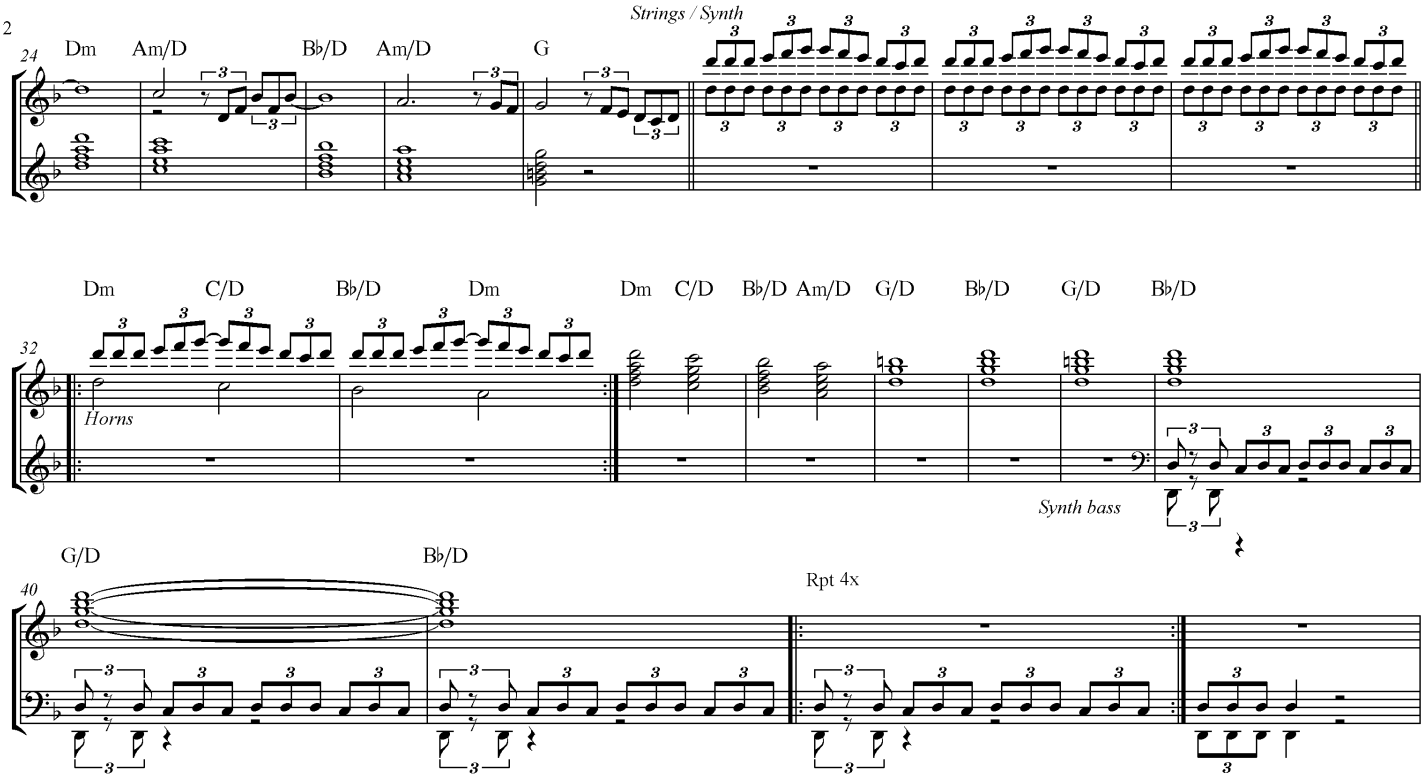
And as if all that wasn't complicated enough, look at the top synth line in bars three and four of the example above; the way the line focuses on the relationship between the 5th and 7th and also the way it runs completely rhythmically counter to the 'straight' quavers established thus far gives the piece a tangible rhythmical edge.

THE LONG GOOD FRIDAY *Francis Monkman*

The Long Good Friday is a London gangster film which follows the exploits of Harold Shand and his attempts to use Mafia money to redevelop the then-disused London Docklands as a venue for a future Olympic Games. The narrative pulls together some of the key issues of the late 1970s, including political and police corruption and the Provisional Irish Republican Army (IRA) gun-running in a potent and filmic mix. Francis Monkman's music was a key component of *The Long Good Friday* in many ways; the distinct textures and harmonies wove their way into the fabric of the film's narrative in a way few other scores of the time managed. Monkman is a trained musician whose love of classical music is evident from his music. His distinct fusion of classical harmony and modern synth textures provided a heady and dramatic mix for the film. Let us look at the main theme from *The Long Good Friday* in a bid to examine its primary harmonic colours and how these are used dramatically with the instrumentation and textures to create a vivid and communicative musical dimension to the film. This theme comes a few minutes into the film when Bob Hoskins' character Harold Shand arrives back in Britain on Concorde, and later perhaps most notably during the iconic ending scene in which Shand is kidnapped by the IRA. During the scene Shand leaves a meeting at a London hotel and is collected by a car which he assumes is being driven by his chauffeur but has in fact been taken over by two IRA men. As the car speeds off Harold is silent, but in a now iconic scene over the next few minutes his face explores a full range of emotions; at first astonishment which gives way to anger and then a slow realization that he is powerless, and finally resignation to the fact that he is being driven to a certain death.

Fig.13 *Audio - Main Title*

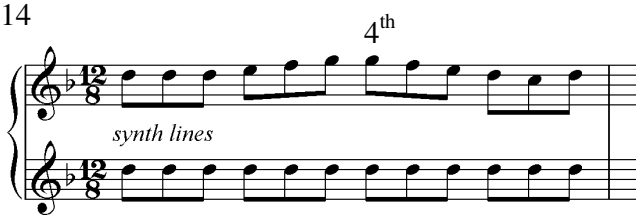




How exactly does the music serve the drama of the film and its wider narrative? How does the theme encapsulate the image of the London gangster in the early 80s? Certainly the sounds are quintessential 80s piercing synth textures, accompanied by a driving quaver-triplet oriented underlying rhythm (particularly the distinctive synth bass).

The opening synth line is striking and immediate; the counterpoint alludes to the classical conventions which colour much of Monkman's work for this film. The formal and inherent mathematical 'squareness' of the Baroque tradition signifies power, authority, magnitude and are clear throughout much of Monkman's music for the film, discussed here and elsewhere.

Fig.14

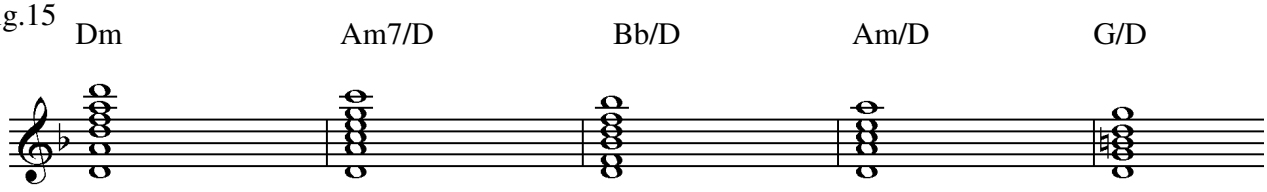


The G note (4th) in fig.4 is pivotal and offers the line a suspended feel, sterile squareness.

One way of looking at Monkman's use of harmony is to reflect on how often film composers do not always think of chord changes but think instead of *changing* an existing chord - suspending, augmenting, diminishing and using slash and inverted chords. All these devices skew the perspective without offering a wholesale total fundamental change.

The following four chords represent the harmonic colour of the music in fig. 13.

Fig.15

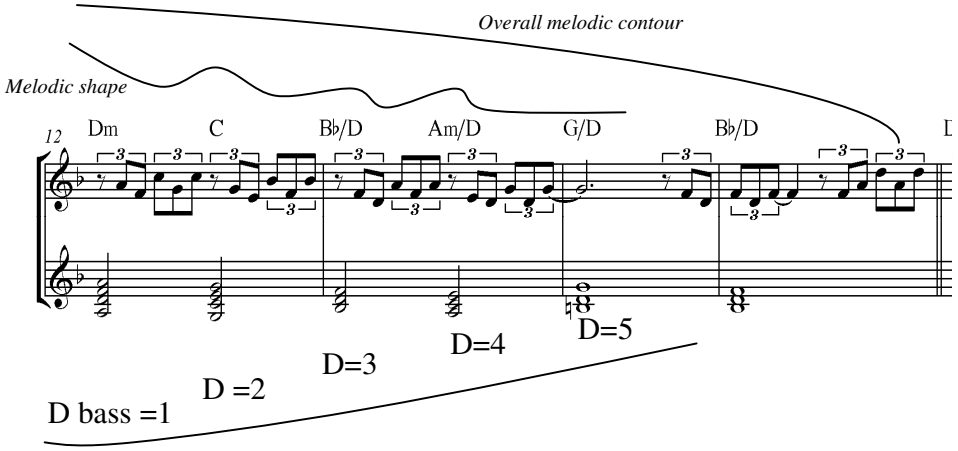


This is an important observation because although the chords above have different chord symbols, essentially they are heard as derivatives of, and evolving from, the initial Dm chord; most notes apart from the bottom D are on the move and there is a definite downward 'cascading' feel. The second chord (Am7/D) contains more colour than is usually the case because of the D *and* A at the bottom of the chord, which causes almost a polychord feel (this is why the chord symbol is technically Am7/D and not simply C/D.

An important observation in context of this piece is that melody is not always as obvious as it might first seem; we are conditioned to think in terms of melody being the 'tune' or something which appears to have a melodic or tuneful context. We often turn a 'deaf ear' to lines which are actually much more pivotal that at first we assume.

In some music melody is not necessarily a specific instrument, a particular line, in a certain position or on a specific stave. Above all, as I state elsewhere in the book, melody is a *function*. What makes it distinctive is its job; its role. Melody is defined by what it *does* rather than what it *is.* I say all this because if we look again at an excerpt from the initial theme from fig.13 we can ask ourselves, is there a clear melody, and if so, what is it? Or are there two competing melodies, and if so, which one do we hear and which one do we listen to? On a simple level we hear what is most obvious and most easy to rationalise. But often we listen to things which, whilst not being as blindingly obvious as melody, are nonetheless *as* important and just as 'melodic' in *function.*

Fig.16



The distinctive sax phrase has a clear melodic shape and a clear overall melodic contour. But the strong D pedal note (not transcribed by notation in this example) also has its own shape when viewed as an interval of the chord which contextualises it. The movement of the D bass is upwards, opposite to the downward melodic contour

The point I make is this; when we listen to this piece we are *as* affected by the evolving intervallic context of the D pedal note (which is its own 'melody') as we are by the more obvious, upfront melodic shape and the perhaps less obvious overall melodic contour of the sax. The D pedal note is one of the main harmonic identifiers and the actual 'melody' itself is so fast and frantic that arguably we are influenced more by the effect of the pedal note than anything else. If this is the case then the reason we are influenced by the pedal note is because although it remains static on the D note, what the D note represents intervallically offers its own narrative. We respond to something we have to decode and interpret. This is perhaps what creates the feeling of momentum, evolution and excitement.

Truthfully we are affected in different ways by everything we hear but my point is that it is good for composers to be aware of how melody is to be found in different areas. Composers who are aware of the subtle melodic contours of different parts of the harmonies are more able to manipulate them and garner more colour and variety.

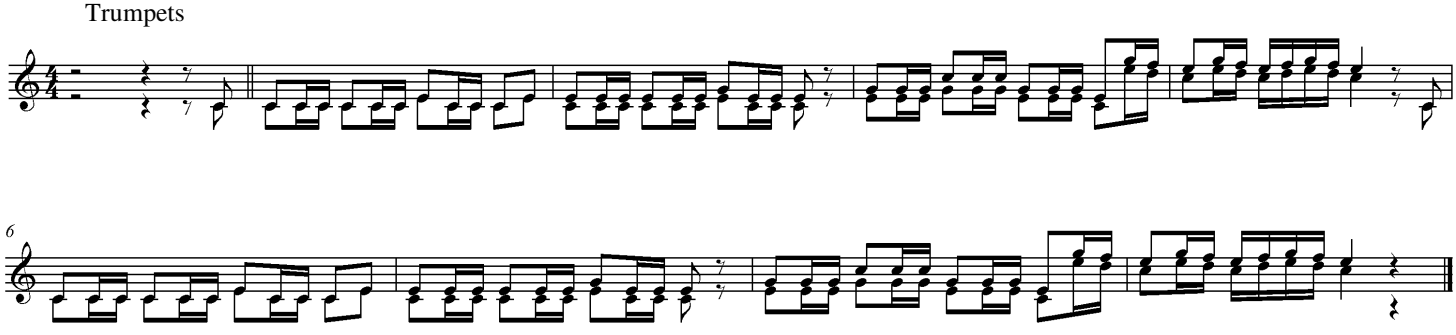
Historically many roads lead back to *The Long Good Friday* from a film and musical perspective. The film represented a benchmark in British filmmaking and cast a long shadow over successive films of a similar style. *The Long Good Friday* was influential and was a lens through which many subsequent gangster films were contextualised and judged. From a purely musical perspective, Monkman's use of synths were not used simply to replicate or imitate 'real' instruments but were used as sounds in their own right.
In some respects Monkman's approach made it 'okay' to use synths; people saw them less as cheap alternatives and more as instruments in their own right. His expert and evocative use of electronic sounds (along with Angelo Badalmenti's score for *Twin Peaks*) helped pave the way for electronic music in subsequent TV shows such *The X-Files* and *24*. Ultimately although Monkman's output for filmed drama is relatively small, we owe him a debt of gratitude for the way he helped shape the future of music for the moving image. One does not have to be prolific to be a pivotal figure.

ROCKY *Bill Conti*

Continuing the theme of the potency of the classical tradition, there is probably no better film than *Rocky* to extol the virtues of Baroque. *Rocky* is a 1976 sports film written by and starring Sylvester Stallone, retelling the 'American Dream' through the prism of Rocky Balboa, who starts out as a club fighter and who later gets a shot at the world heavyweight title. The film, unknowingly at the time, began an iconic film franchise whose narrative became part of the fabric of latter 20th century pop culture. Made on budget of under $1m and shot in 28 days it eventually made over $225 million and won three Oscars, including Best Picture. Composer Bill Conti said, "John Avildson [the director] said, 'my idea of this is a fairy tale…listen to this' – then he played me Beethoven's Eroica Symphony. When I saw the budget I said, 'I cannot do the Eroica. What I can do is Baroque' ". This conveniently acts as a metaphor for the fact that film music is rarely *just* about rampant creativity or unadulterated inspiration and is instead sometimes about pragmatism and compromise. Ultimately in this case it is about science, craft and the careful and tasteful appropriation of style and genre – it is about what could be achieved, rather than what was originally envisioned. Ironically though, Conti's Baroque-influenced music arguably graced the Rocky franchise in much more of direct way than Beethoven's Eroica would have done. The overtly Baroque sensibilities employed by Conti were an appropriation of classical grandeur, and as I say, were the result of a compromise between what the director wanted and what was financially achievable. And yet the connection between Baroque music and the film's narrative is so obvious and effortless that one could be forgiven for presuming it was the idea all along.

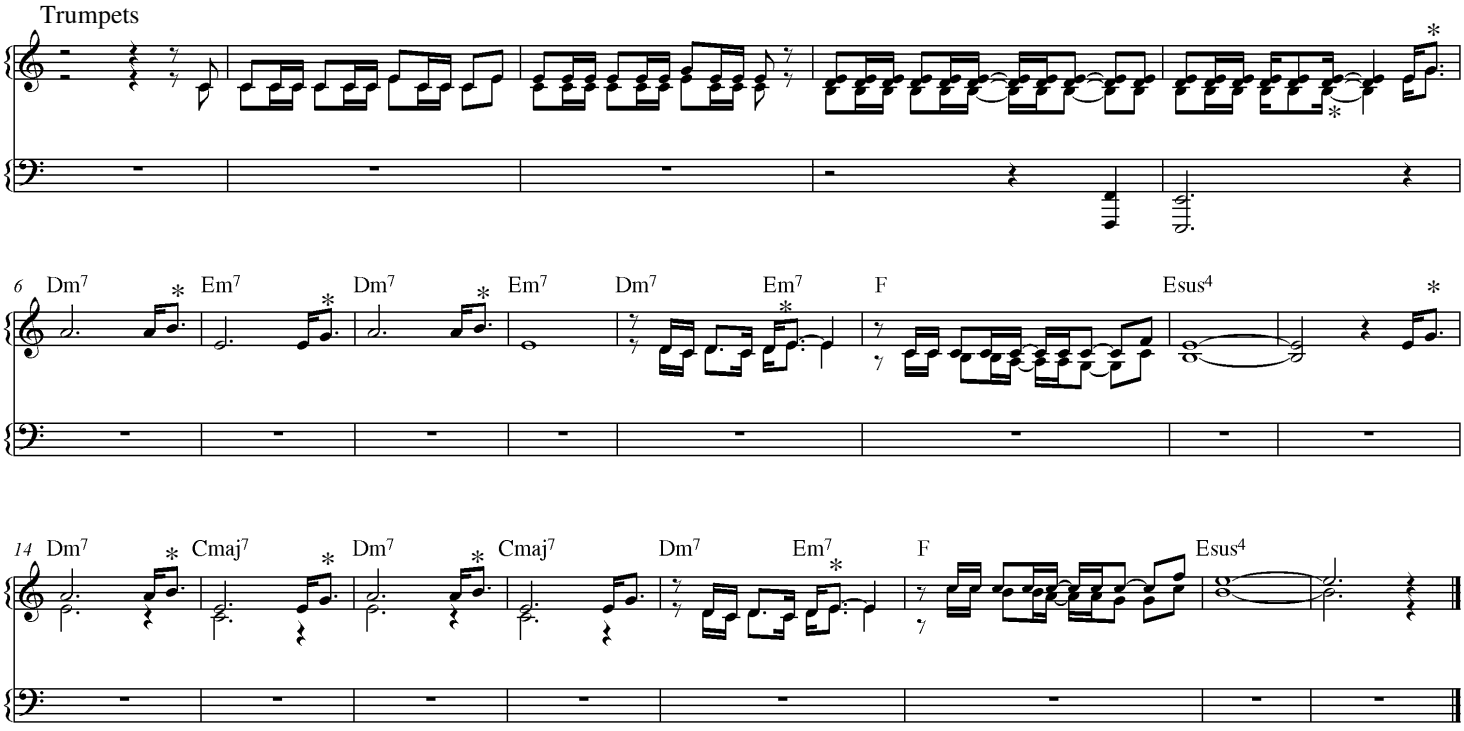
The famous 'Rocky Fanfare' is perhaps the most obvious and well-known musical aspects of the film, combining a sense of gladiatorial pomp, simplicity and fugal grandeur to articulate musically the supposed majesty, magnificence and splendour of the boxing ring.

Fig.17 *Audio - Rocky Fanfare*



The same figure is incorporated into the main theme from the film ('Gonna Fly Now', below, fig.18). The main theme utilises not just the some of the rhythmic elements of the original fanfare but also the main instrumental characteristic – the trumpets – to articulate the *Rocky* narrative. The rhythmically anticipatory elements of the trumpet line (*) are characteristics which help modernise the line and turn it into a pop tune.

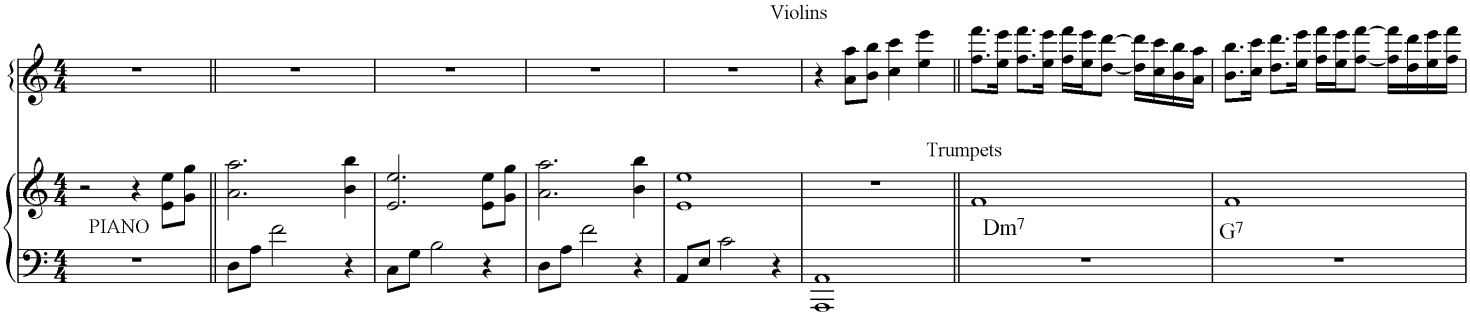
Fig.18 *Audio – Gonna Fly Now*

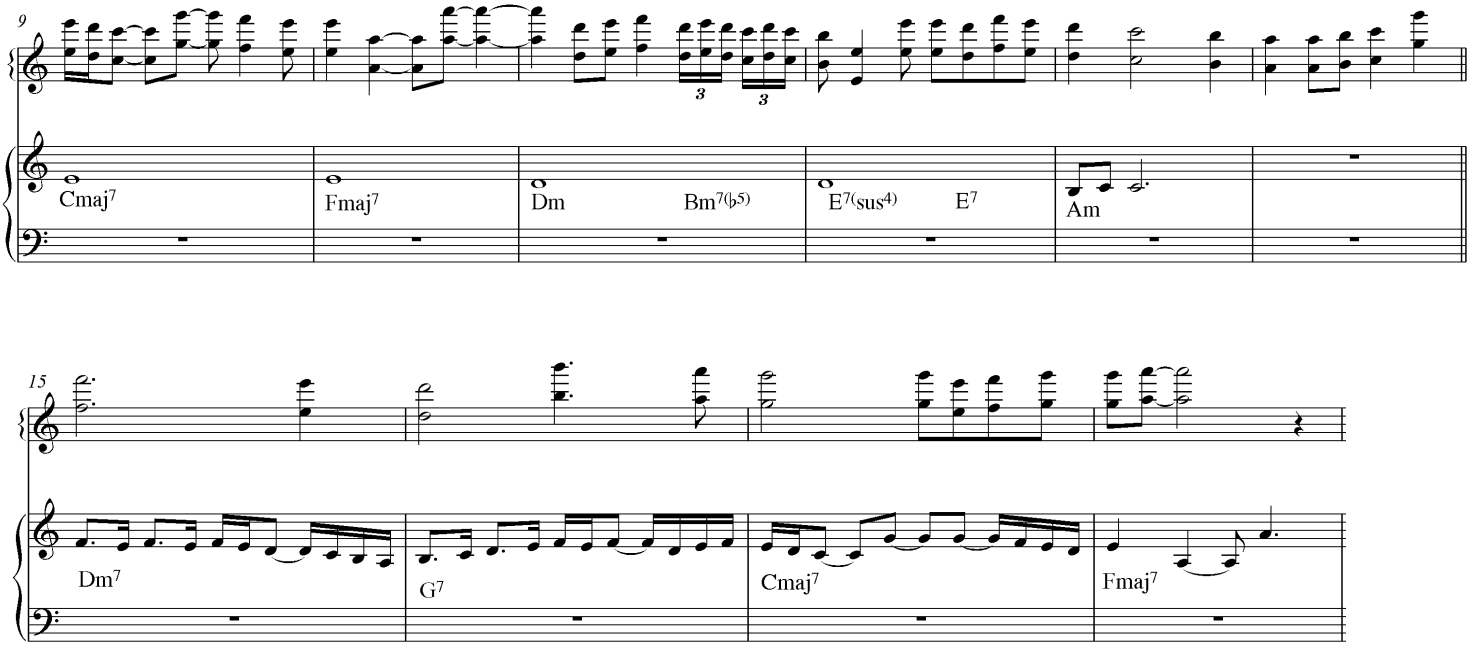


Another way in which the piece makes an impact is in bars eleven and nineteen, where the two trumpets begin on a unison C and then separate, the bottom one moving down from C to B, then A and G. The most vivid albeit brief 'clash' is the semitone between the C and B (the 5th and #4th).

Perhaps one of the most harmonically Baroque phrases is in the piece entitled 'The Final Bell' – a piece written to encapsulate the heroic greatness of the fighter and the supposed 'romance' of the battle.

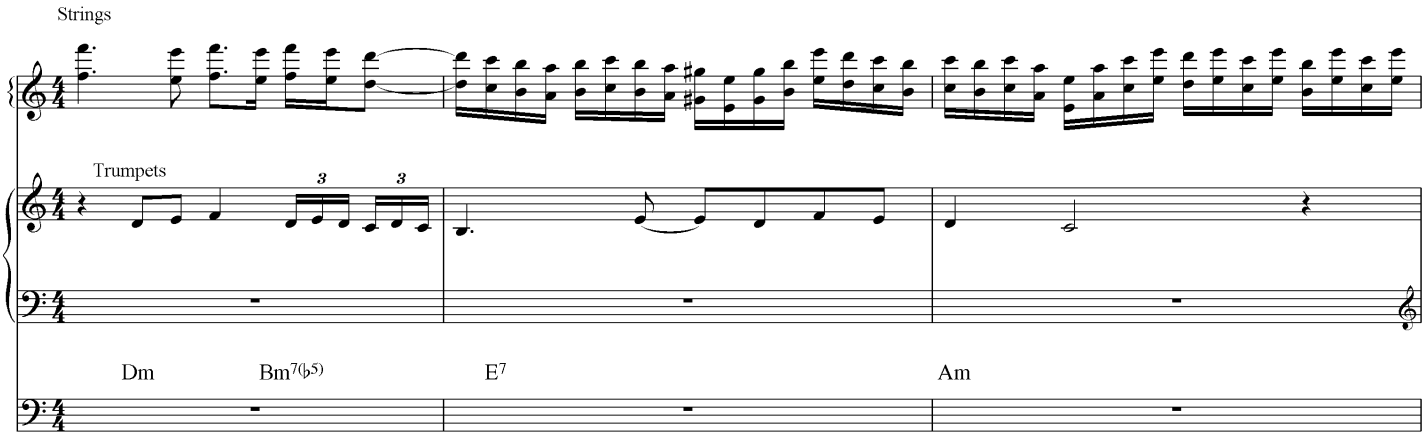
Fig.19 *Audio - The Final Bell*

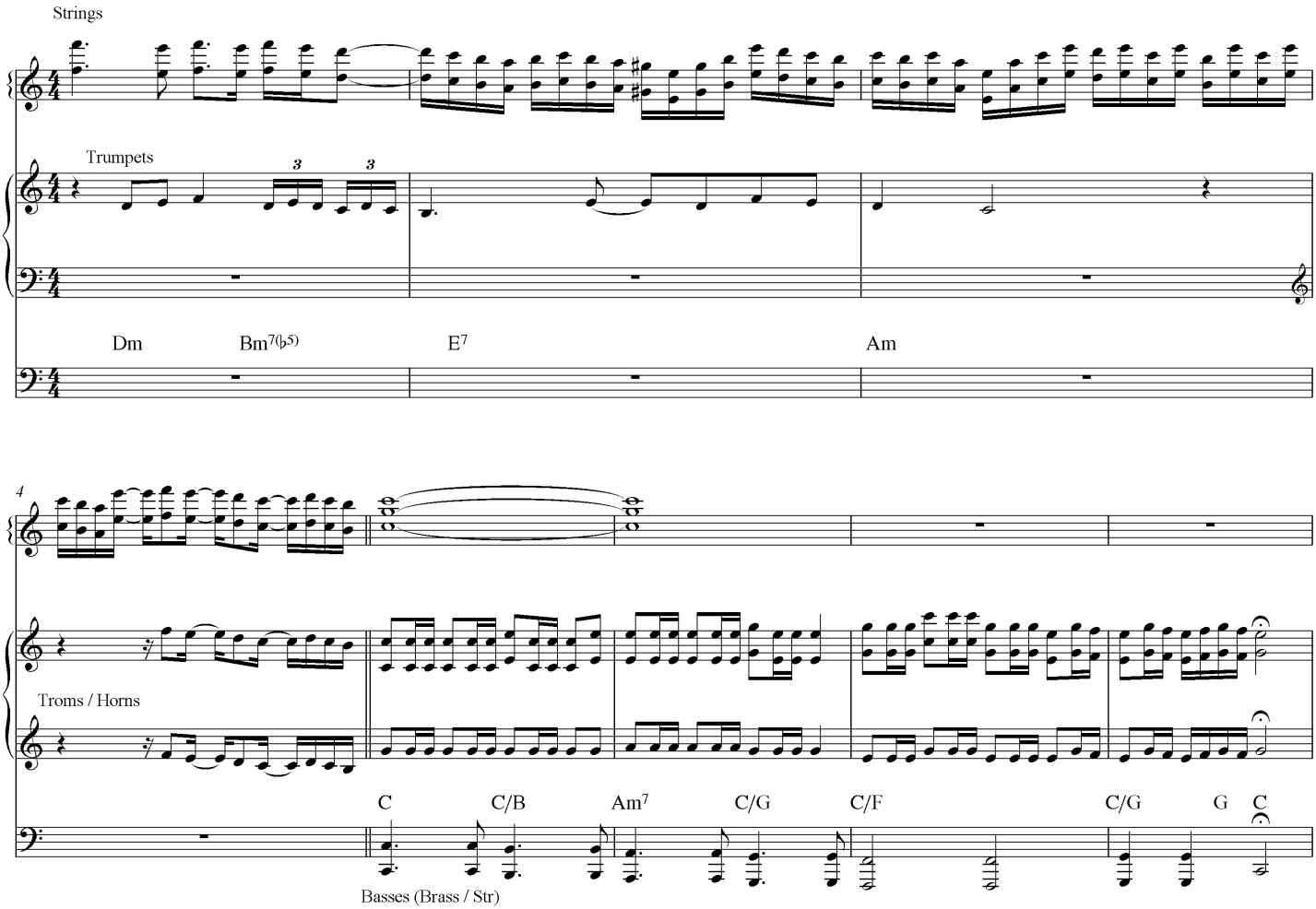




Once again we have the striking melodic contours and rhythmic intricacy of the string line (later repeated by the trumpets) but also we have the quintessential harmonic progression so much associated with Baroque (Am, Dm, G7 C, F, Bm7(b5) E7, Am) coming through clearly in the accompanying chords. Just as striking are the final few bars of this piece (below, fig.20). The transcription below runs from 1.17 of the audio track and displays the intricate counterpoint between the trumpet line and accompanying classically Baroque 'dancing' string line. Also note how Bill Conti recapitulates the Rocky Fanfare motif in the final few bars over a climactic descending harmonic passage.

Fig.20 *Audio - The Final Bell (01.17)*

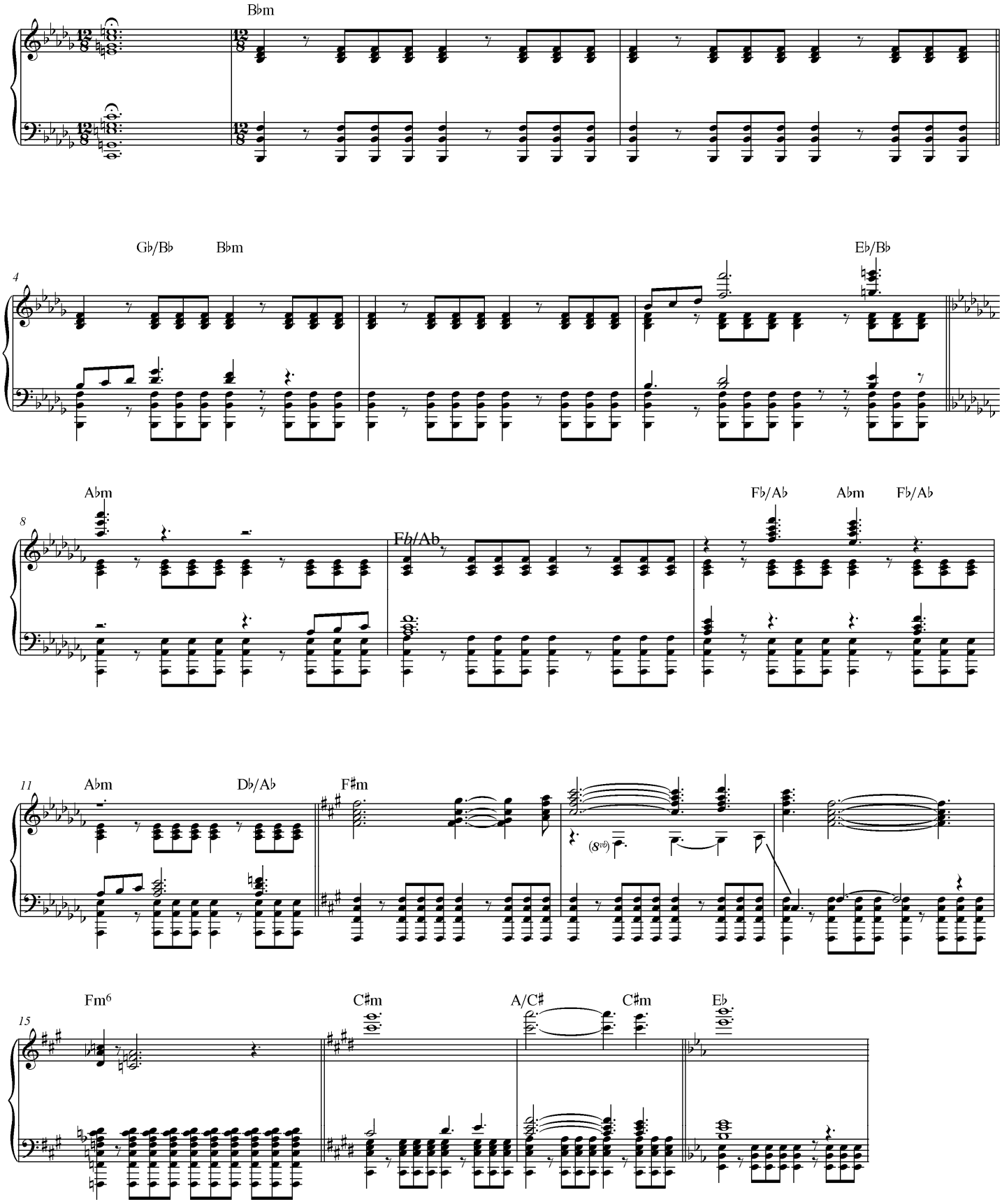




BATMAN RETURNS *Danny Elfmann*

Batman Returns is a superhero film directed by Tim Burton and is the sequel to Burton's hugely successful *Batman* movie. The story goes that Burton originally did not want to direct a sequel but was finally convinced to do so, creating a film which was markedly darker than its predecessor. Burton commissioned a script rewrite from Daniel Waters who came up with a social satire that had an evil mogul backing a bid for the Mayor's office by the Penguin. "I wanted to show that the true villains of our world don't necessarily wear costumes" said Waters. Elfman followed the darker narrative musically and rather than leaning on rescored and rehashed cues from the first movie he sculptured a magnificent score worthy of an Opera. Elfman's iconic *Batman* theme is there from the previous movie but much more vivid in terms of harmony and orchestration. In terms of this chapter, the 'Batman Theme' is analysed in order to investigate its ability to capture the drama, spectacle, menace and sheer gravity of the *Batman* narrative so succinctly and immediately. The transcription below (fig.21) is a harmonically abbreviated section of the main theme which features the basic voicings and instrumentation. Although the theme displays the dark gothic context of the movie and captures the excitement and drama by virtue of its lightning pace, the music also displays a peculiar unwieldy and cumbersome sense of awkwardness and eccentricity. We join the cue midway through as the main theme statement comes when we see the word 'BATMAN' on the screen.

Fig.21 *Audio – Birth of a Penguin (part 2) 00.38 Movie – 00.02.57*



The frantic triplet rhythmic phrasing which supports much of the melody possesses more than a hint of comedy and satire which is heavily suggestive of something which doesn't take itself too seriously. The horn melody itself, which begins on bar four is delivered like bullets out of a gun and again although there is a kind of dramatic seriousness to it, there are still hints of comedy. The rapid movement from the key centre of Bbm to Abm (bar seven-eight) sounds slightly unexpected harmonically, with the passing chord of Eb/Bb appearing to be suggestive of something different. The change to F#m is equally unexpected and is, again, symptomatic of the frantic and vivid nature of this piece. The chord change of F#m (bar fourteen) to Fm (fifteen) could have sounded too chromatic but the inspired and typically Elfman/Bartek inclusion of the maj6th in the Fm chord prevents the manoeuvre from F#m to Fm sounding too parallel. There is a more plausible link between the Fm chord (bar fifteen) and the key change to C#m in that Fm and C#m enharmonically share the common note of Ab/G#.

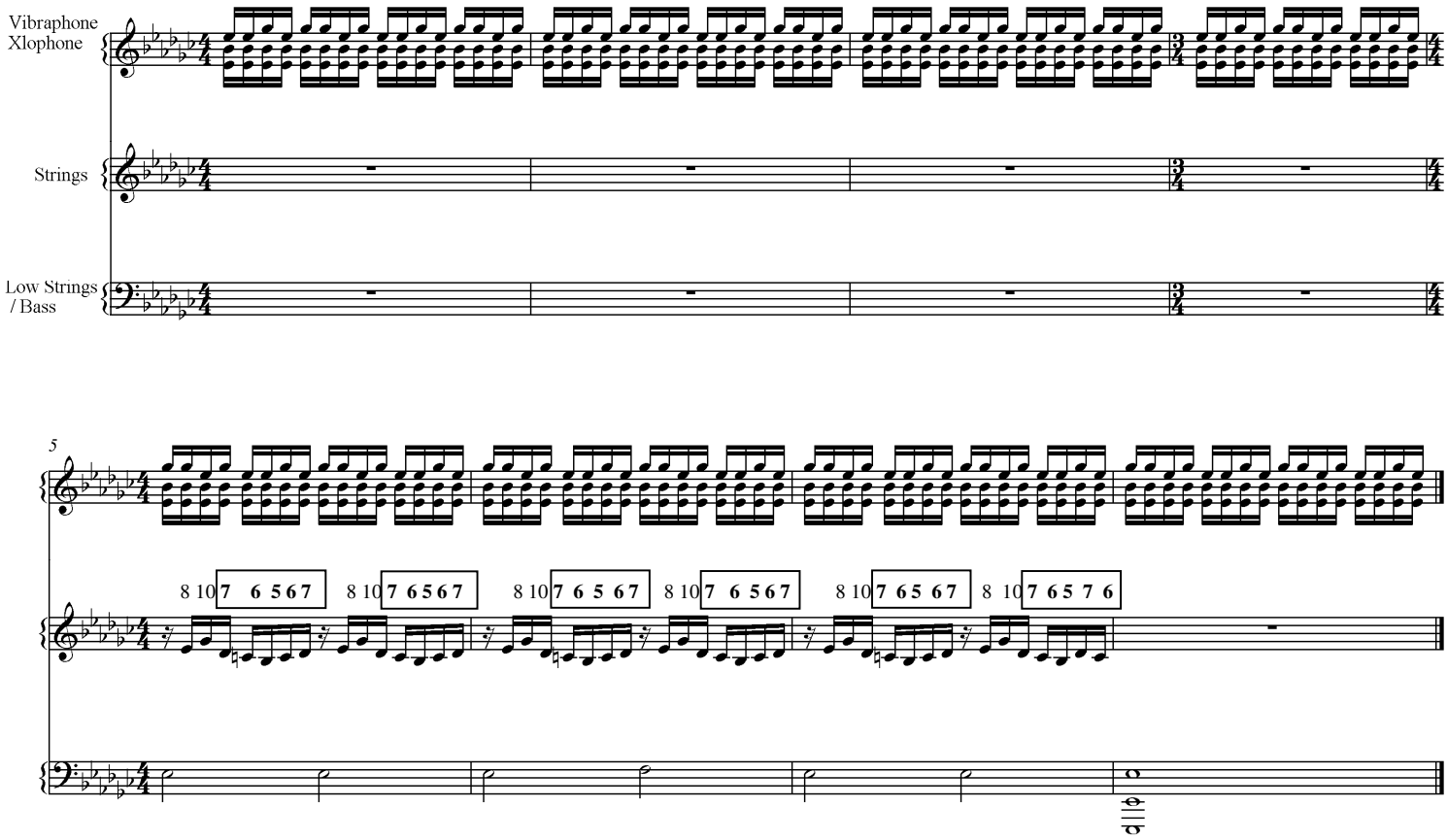
Perhaps one of the most oblique observations about how this piece functions is the notion of the success of one chord being essentially down to how it chord is delivered; how listeners are *prepared for it*. This is something we've looked at a few times. It becomes apparent in this piece just how striking the frenetic Bbm harmonies are from bar two of fig.21. What is perhaps not quite as obvious is the difficult and quirky harmonic shift a tone down from the big dramatic paused C chord (bar one) to the Bbm. The relationship between the C chord and the beginning of the phrase in Bbm is crucial in terms of the piece 'serving the main theme up on a plate'. The C chord works by making the subsequent Bbm sound odd (because they are out of each other's key centres).

THE BOURNE IDENTITY *John Powell*

In contrast to Elfman's frantic theme from *Batman Returns,* and in order to prove that something does not have to be fast and furious to transmit excitement and drama quickly, we have a couple of excerpts from John Powell's score to *The Bourne Identity.* The first excerpt is titled 'Bourne on Land' and begins with an interesting and quasi hypnotic tuned percussion semiquaver motif, accompanied eventually by a semiquaver string line underneath. The issue in terms of the communicative qualities of this piece are that both lines offer textural and harmonic colour. The slightly mesmeric top line repeats the 3rd and root offering a definite sense of harmonic structure. The section we're particularly interested in harmonically is where the semiquaver strings arrive (bar five), stating several colourful intervals. The line is quick but not so quick that the effect of the intervals can't be heard. What is specifically crucial about the intervals is the semitone relationship between the 7th (Db), maj6th (C) and 5th (Bb).

Audio - Bourne on Land

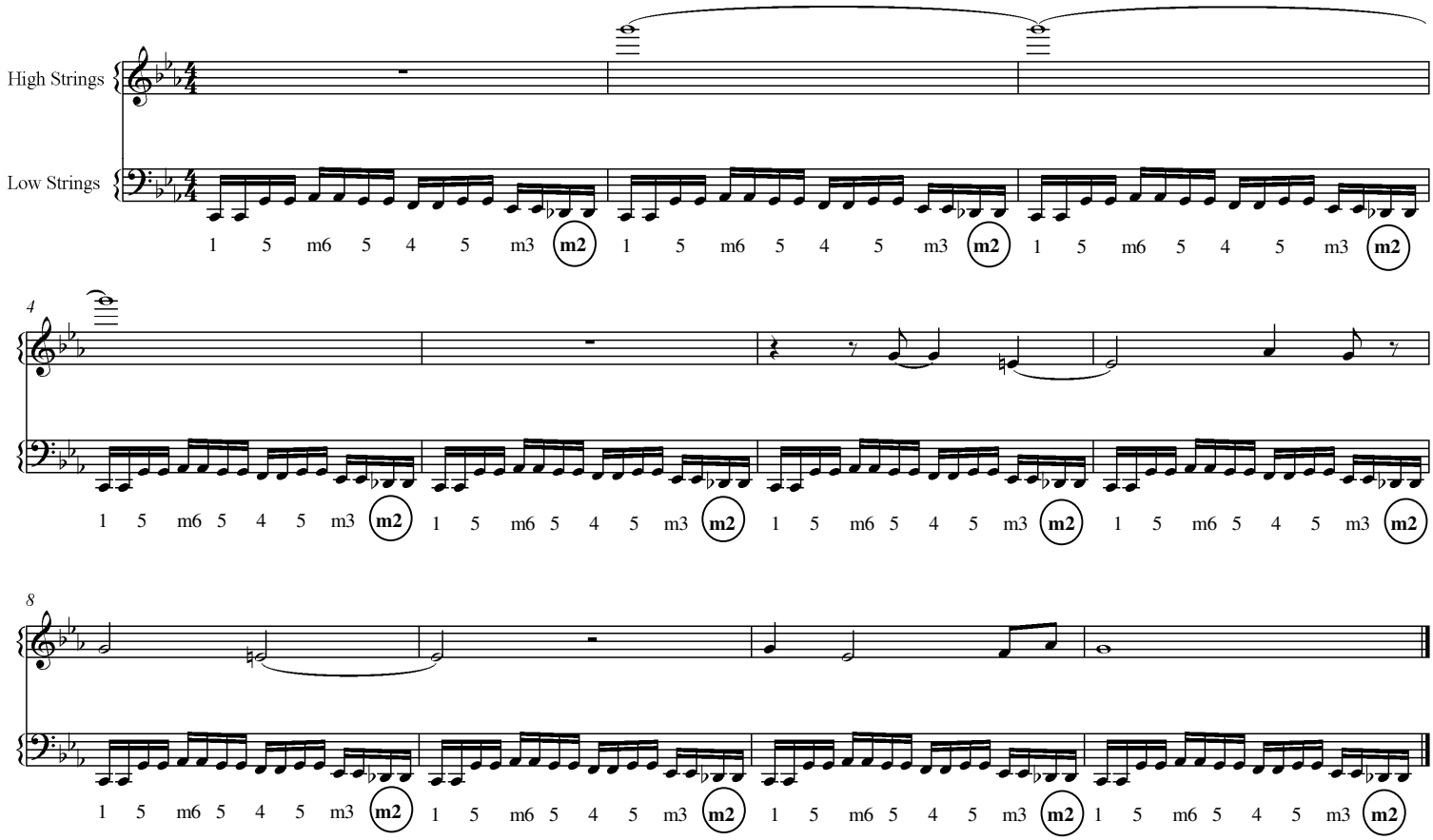
Fig.22



The maj6th and 7th intervals are different types of extensions which traditionally provide different contexts and fulfil different roles within chords. They exist to do different jobs and create subtly different shades of colour. The specific colour exuded by a particular extension is something we've touched upon before; the 7th offers a relaxed, loose, jazz feel whereas the maj6th (over a minor chord) offers a much more melodramatic feel and is used often in *James Bond* films. Played together backwards and forwards this mixture of different emotions creates a slightly disorientating and even unnerving feel. The use of semiquavers to engender a feeling of unease, anxiety and restlessness is heightened by the specific extensions chosen to articulate the passage.

Another section which typifies Powell's use of semiquavers comes 1.01 into a track titled 'At the Bank'. Key here is not just the rhythmic nature of the line but the employment of the unsettling and disconcerting Phrygian mode.

Fig.23 *Audio – At the Bank 01.01*



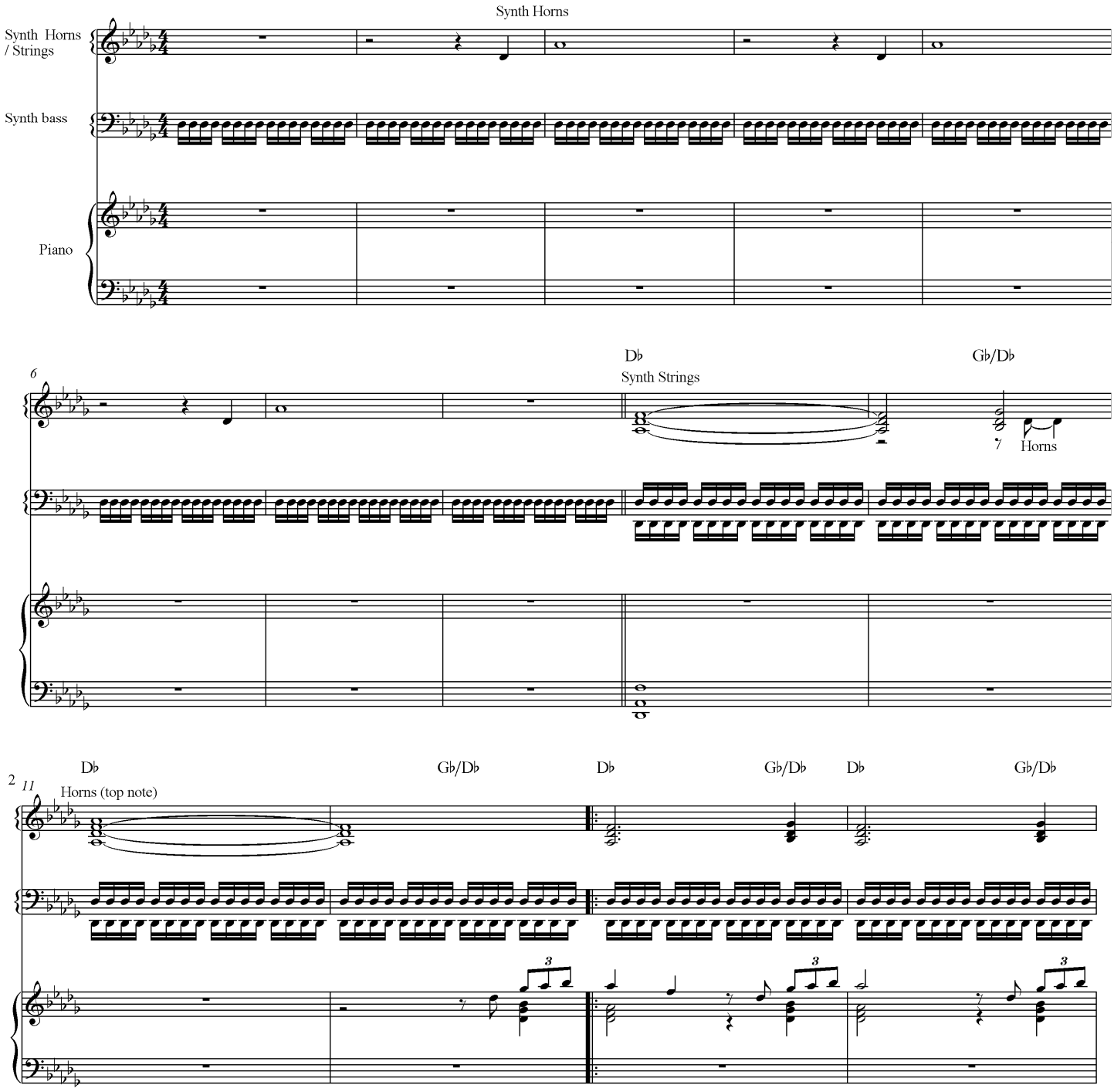
Another harmonically unsettling aspect of this piece is the friction between the clear min 3rd in the bass line and the maj3rd on strings in bars six, eight, ten and eleven.

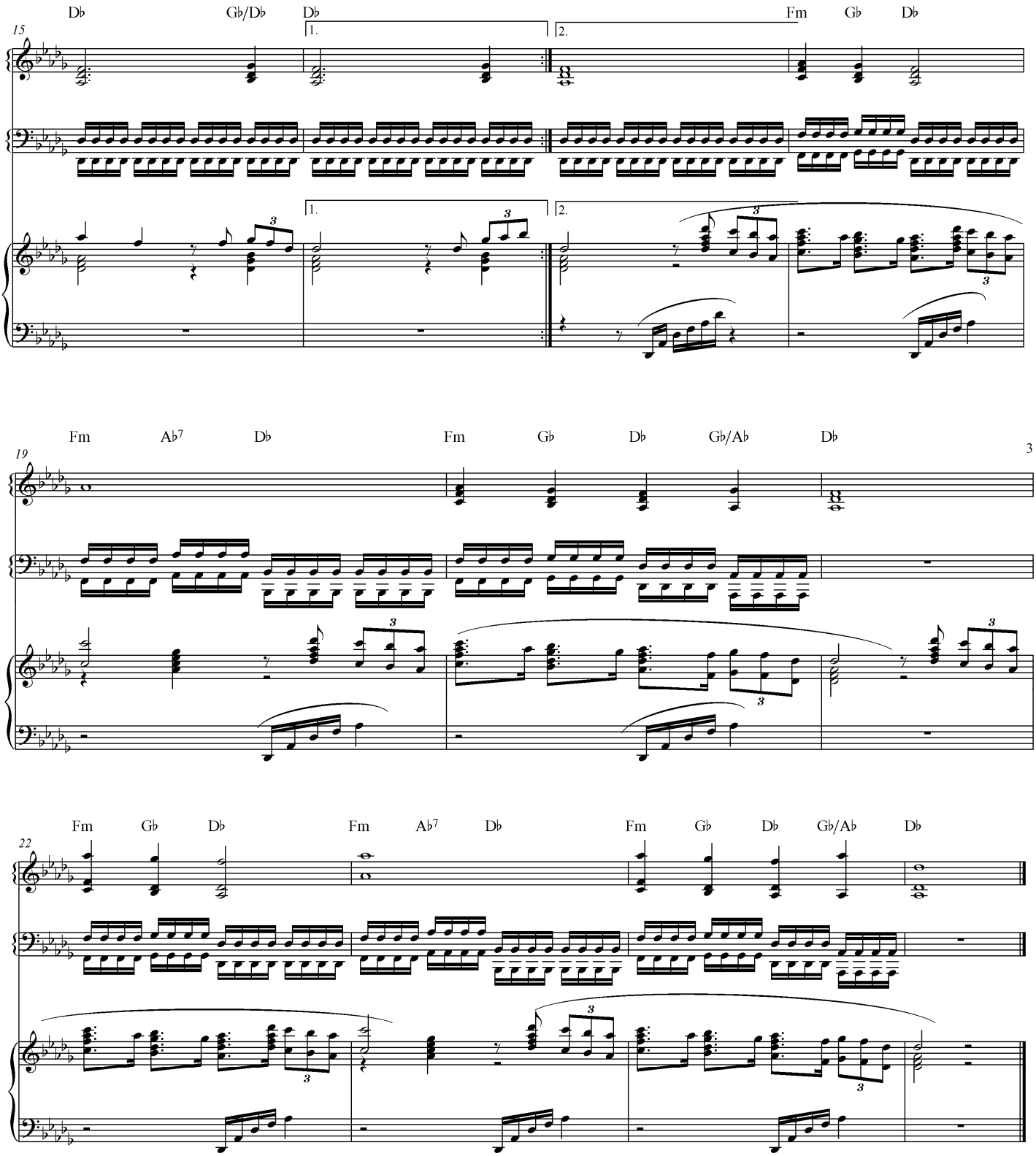
CHARIOTS OF FIRE *Vangelis*

Another theme with a strong pulsating bass presence is the iconic theme to the movie *Chariots of Fire*. A relentless and mesmeric low synthesized semiquaver line runs throughout the theme. Although the melody is effective, as are the distinctive synth textures, the repetitive hypnotic line is also a key element. *Chariots of Fire* is a 1981 film which tells the story of two athletes in the 1924 Olympics. The film was a critical and commercial success and won four Oscars. The phrase 'Chariots of Fire' was inspired by the line, 'Bring me my chariot of fire' from the William Blake poem adapted into the popular British hymn 'Jerusalem', which is heard at the end of the film. The main theme music succeeds in being majestic, uplifting, inspirational, and is resplendent with passionate heroism. One of the notable aspects of the music is that although the *Chariots of Fire* is a period film, set in the 1920s, the music mainly uses electronic synthesizers and piano; the music is not period music. It creates its own distinctive interpretation of the story and the narrative.
Although it is heavily romantic in flavour, resplendent with luscious voicing and rich chords and although it does not challenge us melodically or harmonically, its synth-based textures are at odds with the historical 'vibe' and context of the film.

The vast majority of period films tend towards period music so the use of synthesizer textures was a significant departure. The title theme has become iconic; owing to its iconic theme and memorable textures and instrumentation and the content of the movie in which it first appeared, the music for *Chariots of Fire* has become synonymous with sporting achievements. It was the official theme for the 1984 Winter Olympics in Sarajevo and was the opening theme used by the BBC for their coverage of the 1984 and 1988 Summer Olympic Games. In more recent times, as sporting events have become as much about entertainment and spectacle as they are about sport, the theme has been used hundreds of times and has become immersed in popular culture.

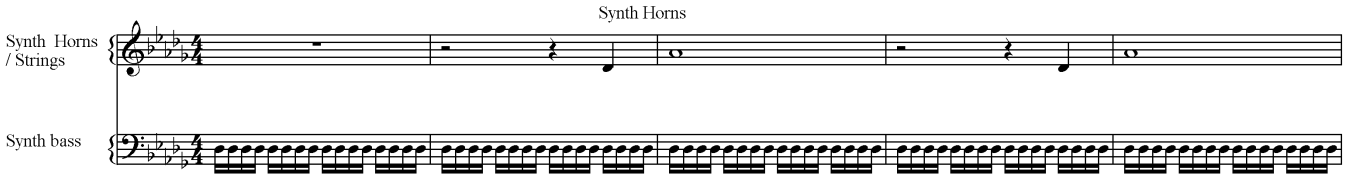
Fig.24 *Audio – Main Titles*




15
Db
Gb/Db
Db
1.
2.
Fm
Gb
Db
19
Fm
Ab7
Db
Fm
Gb
Db
Gb/Ab
Db
3
22
Fm
Gb
Db
Fm
Ab7
Db
Fm
Gb
Db
Gb/Ab
Db

One of the key elements of the piece is Vangelis' initial use of the perfect 5th interval; as we have established elsewhere, intervals such as octave and 5th tend to be associated with power, gravity and authority. There is almost a gladiatorial element to it, used in this context.

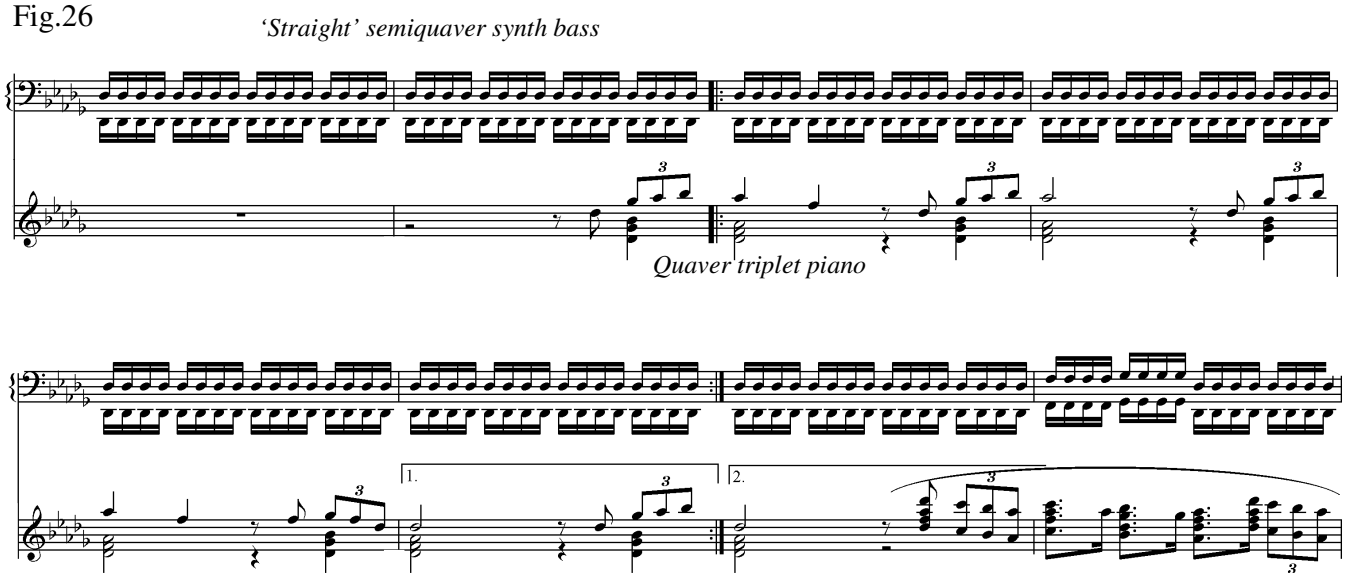
Fig.25



The interval dominates the introduction of *Superman* and the main intervallic phrasing of *Star Wars* and numerous other themes which exude drama, gravitas, heroism and bravery. Perhaps the most obviously memorable aspect is the iconic piano melody. But of course when melodies are memorable it is usually because they are reacting to something else; few elements of music occur in a vacuum. Melodies have to be delivered well; we have to be prepared for them. The melody evokes a feeling of sweeping majesty; it makes a virtue out of juxtaposing the synth line 'straight' semiquavers. The mixture of straight and triplet rhythms offers the piece a distinctive rhythmic feel. Although there are no rhythm instruments involved there is a percussive rhythmic synth sound which states semiquavers throughout, just like the synth bass. The triplet quaver piano reacts beautifully with the semiquaver bass and rhythm, creating an exquisite sense of pace. This is why the piece manages to convey such rhythmic colour despite there being no obvious and dominating *percussive* rhythm.

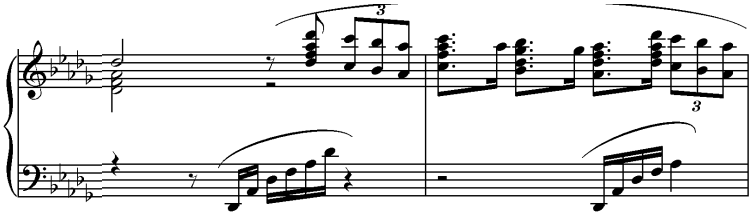
Another perhaps less obvious but successful feature of the melody is that it arrives on the offbeat halfway through the bar, thus allowing for the richness of the supporting chord to resonate.

Fig.26



In the second part of the theme (bar seventeen-twenty four of fig.24) the use of the semiquaver arpegiated left-hand piano phrase also offers significant rhythmic and harmonic colour and variation, bleeding as it does into the right-hand phrasing (transcribed separately below, fig. 27).

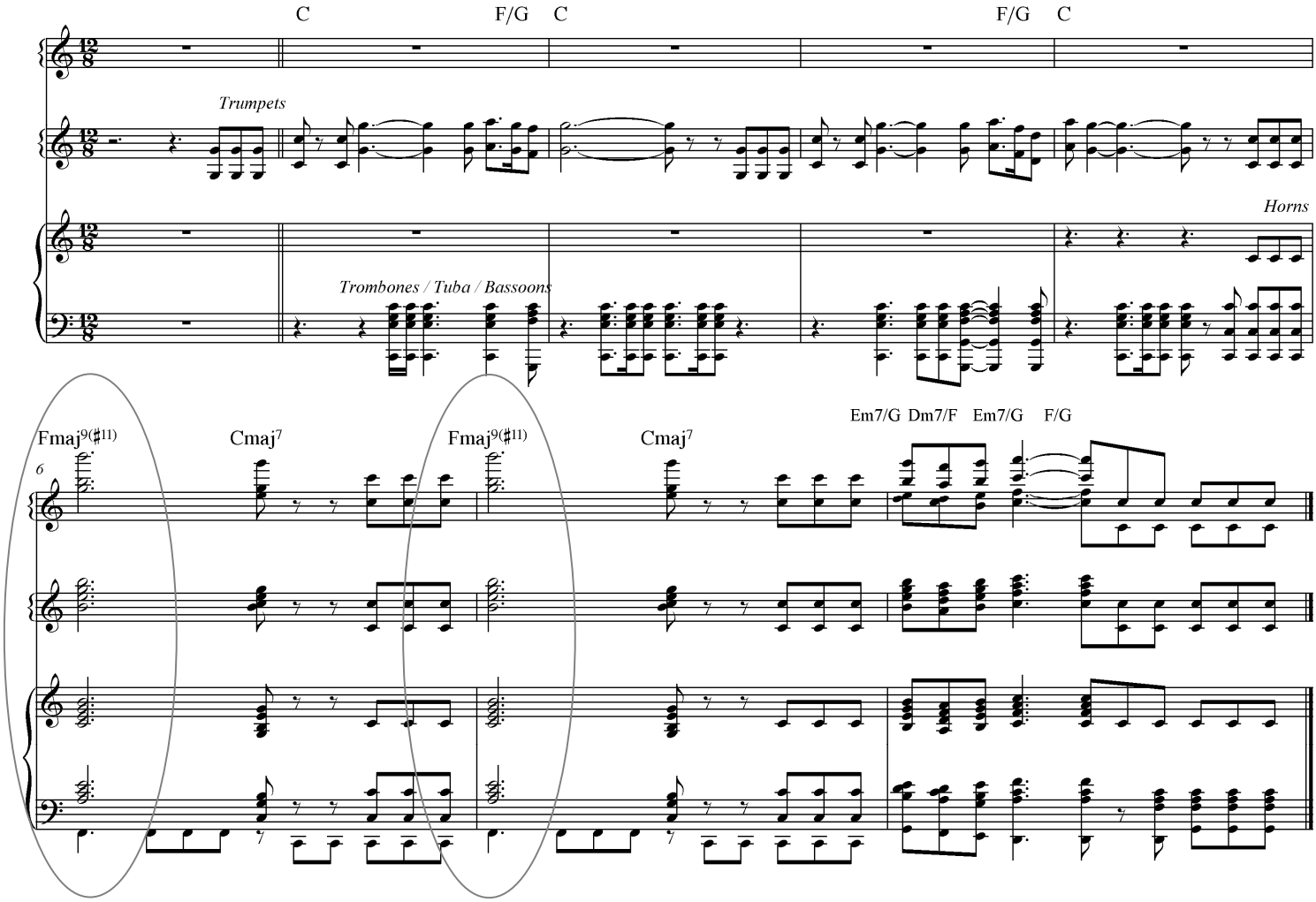
Fig.27



SUPERMAN *John Williams*

In context of this chapter the main reason for looking at *Superman* is to examine the way it offers dramatic tension in a very specific and identifiable way. If we were to draw a notional emotional contour over the melodic line of the main section in fig.28 we would find that the place where the theme makes its real impact is in bars six and seven. The use of the maj9 with the #11 is absolutely crucial to the success of the entire piece. Most pieces possess a harmonic centre of gravity and bars six and seven represent the centre of gravity in this piece - the moment of euphoria which defines the piece. The distinctive opening bars of the piece may be better known but the use of the major9th with the #11 offers a sporadic burst of extreme colour in an otherwise harmonically monochrome
section.

Fig.28 *Audio – Theme from Superman (00.39)*



We need to understand *why* the #11 works as it does; to merely *know* that it offers significant colour is not enough for a budding film composer. The #11, like the #4 an octave lower, offers colour and tension. As listeners we work harder listening to these harmonies, which excites us; the orchestration then faithfully delivers the instrumental euphoria by placing a piercing trumpet on top of the chord. But why does it work? The #11 betrays a multitude of emotions but the specific meaning is the precise orchestral and filmic context in which the extension is heard. The reason the #11 transmits as it does lay in the nature of the chord, the tensions created by the #11 and, in the case *Superman*, the specific voicing.

Fig.29

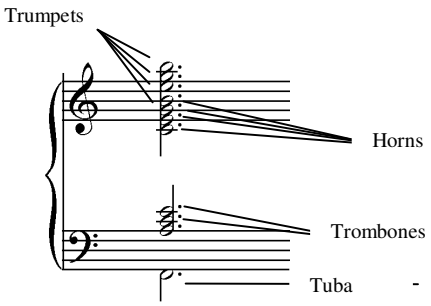
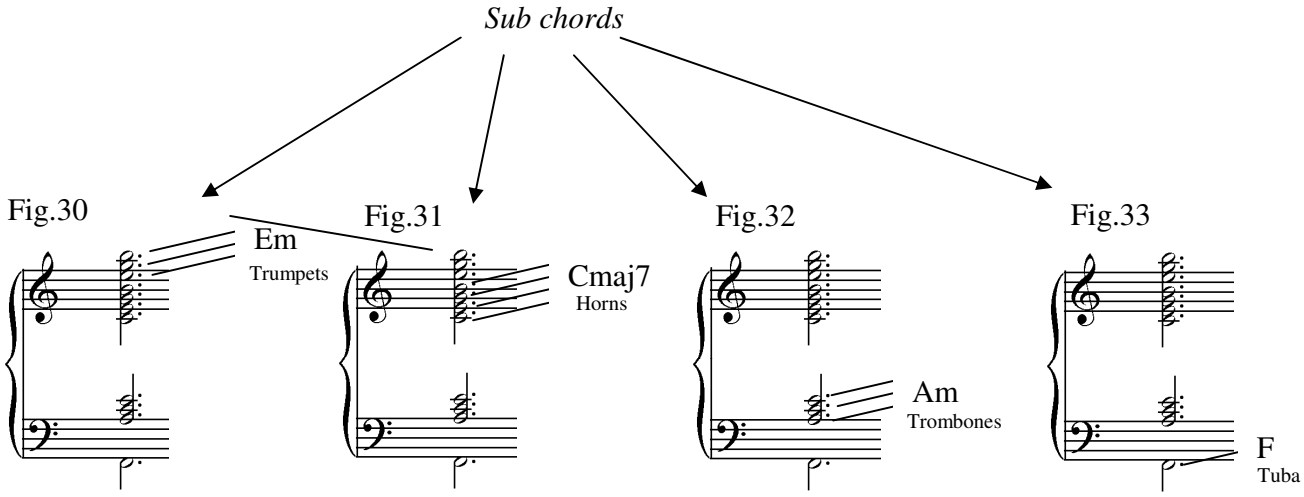
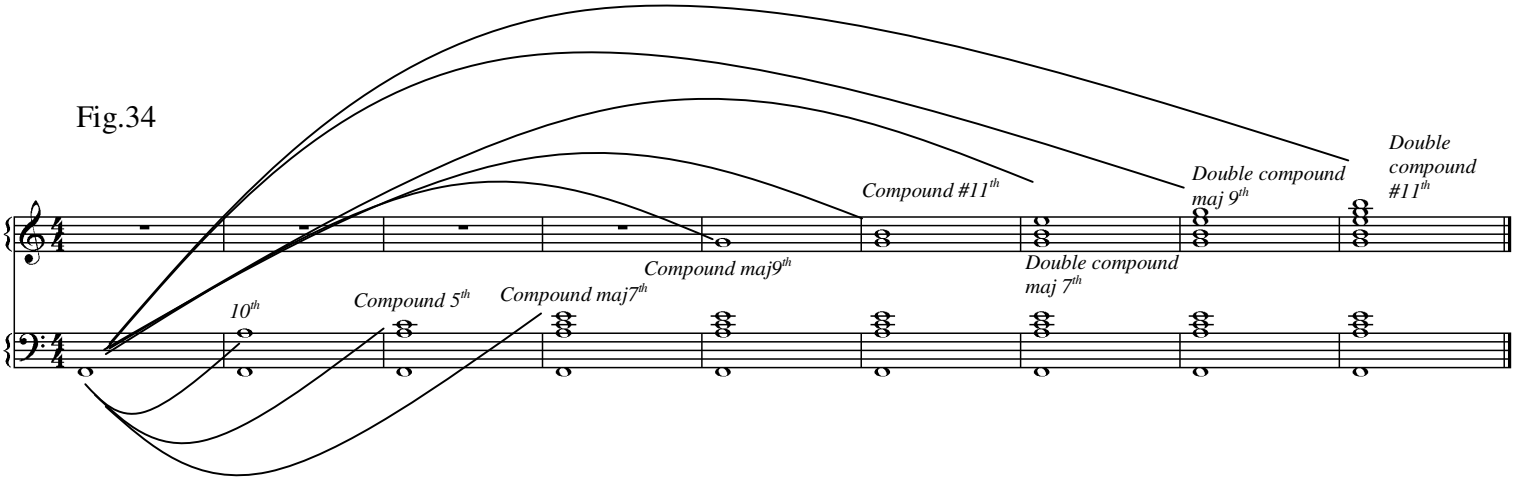


Fig.29 displays the exact chord voicing Williams used for the #11 chord. The reason we work harder to rationalise this chord is chiefly because of the specific colour offered by the #11 but *this* is partly because of the vast number of different harmonic relationships between the individual notes within the chord. In fig.30 we highlight the trumpets, which state an Em; fig.31 highlights the Horns, which state a Cmaj7; fig.32 highlights the trombones which play an Am triad; finally fig.33 highlights the Tuba, which finally contextualises the chord



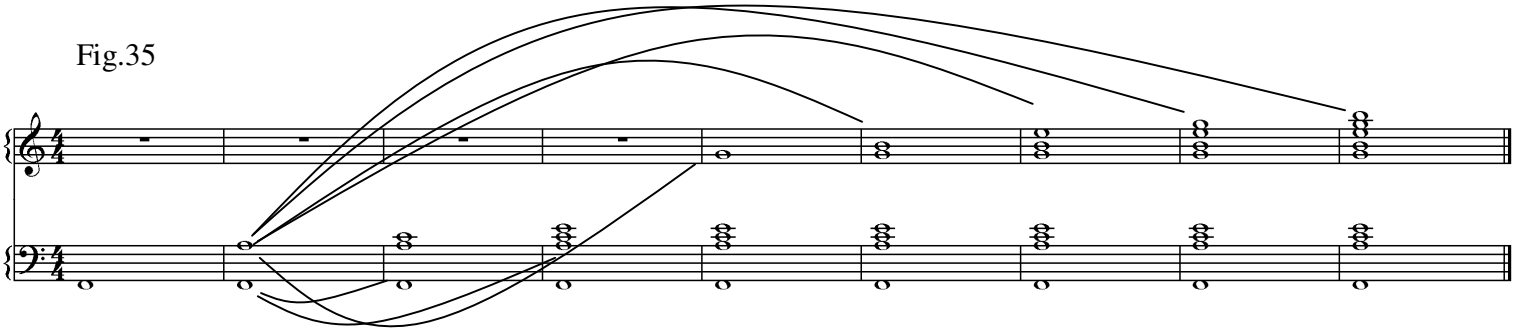
The fact that different sections of the brass independently state subtly different chords (which *together* make up the final chord) is perhaps one of the reasons why the harmonic intricacies and nuances are so vivid in this chord. Isolating the 'sub-chords' with different groups of instruments is certainly a good way to italicise the different harmonic elements of the chord. As stated elsewhere in different volumes of this book, we are conditioned to look at harmony bottom-to-top; seeing everything in context of the root note. But the internal harmonic dynamics within a chord caused by the *individual intervals* between different notes is also responsible for how we hear the chord. If we look at the same chord evolving into shape horizontally it is perhaps easier to see the internal harmonic dynamics at work in this chord. Firstly let's look at how the low F note interacts with the rest of the chord.

Fig.34



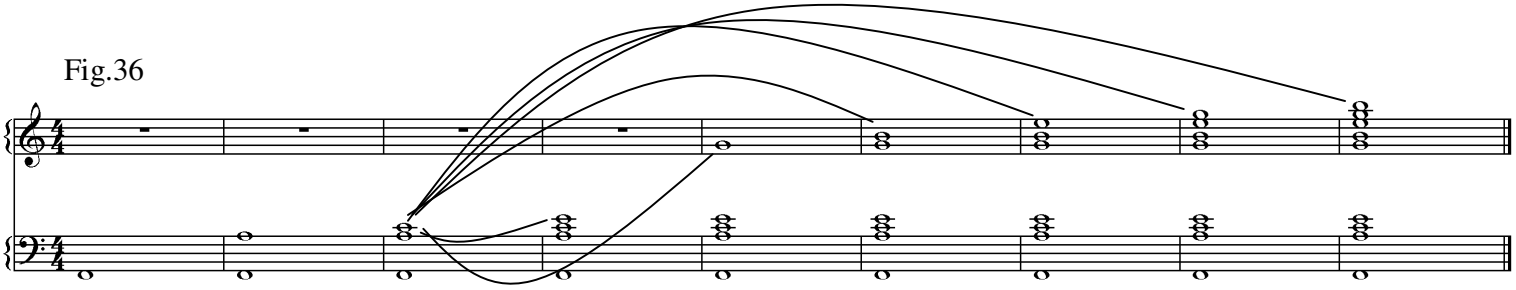
There are eight separate intervals from the F upwards. Looking below at the number of harmonic intervals between the A (bass clef stave), we can see there are seven separate intervals, or 'harmonic events' as the A note reacts with the other intervals.

Fig.35



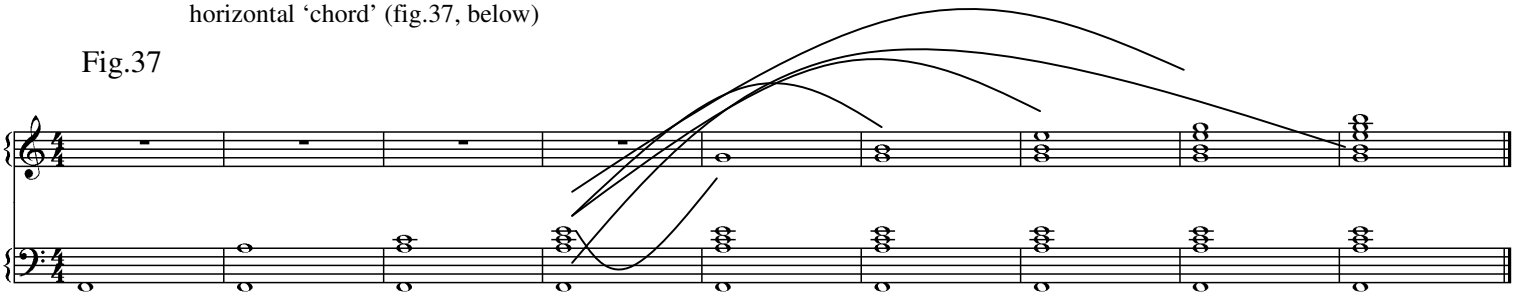
Likewise, looking at the number of harmonic intervals between the C (bass clef stave), we can see there are six separate intervals, or 'harmonic events'.

Fig.36



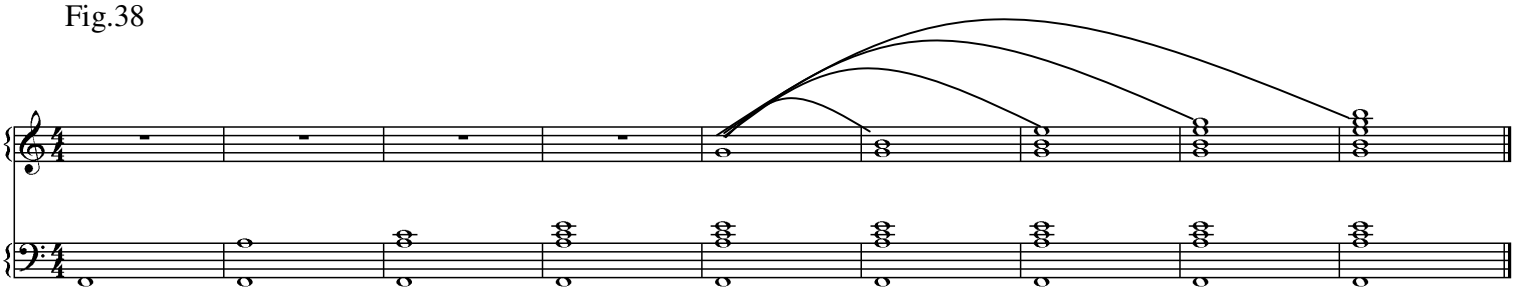
There are five harmonic intervals between the E (bass clef stave) and the remaining intervals in the horizontal ‘chord’ (fig.37, below)

Fig.37



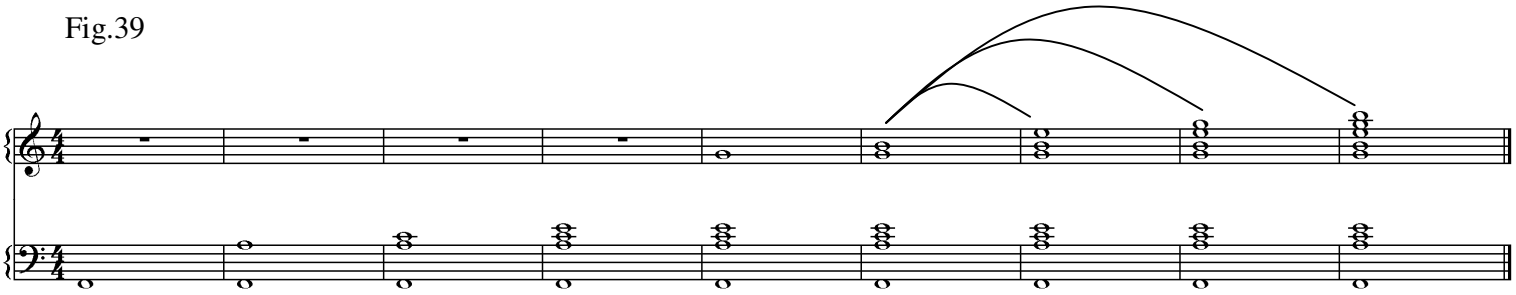
Between the G note (treble clef stave) and the four remaining notes there are four separate harmonic events.

Fig.38



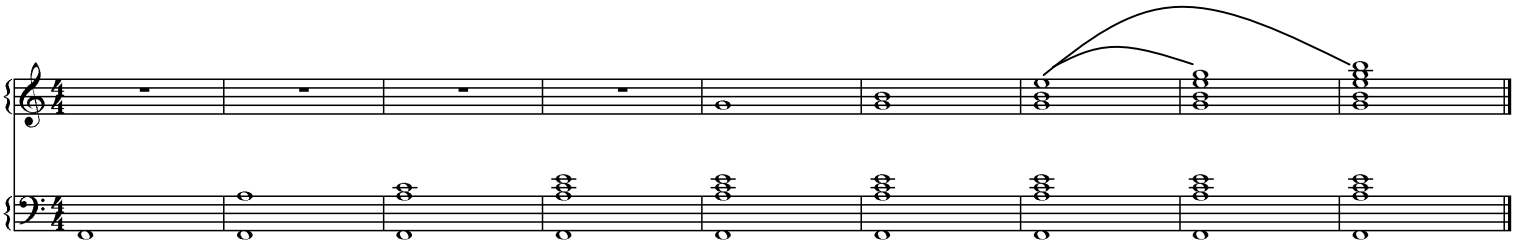
Between the B note and the remaining notes there are three separate harmonic events.

Fig.39



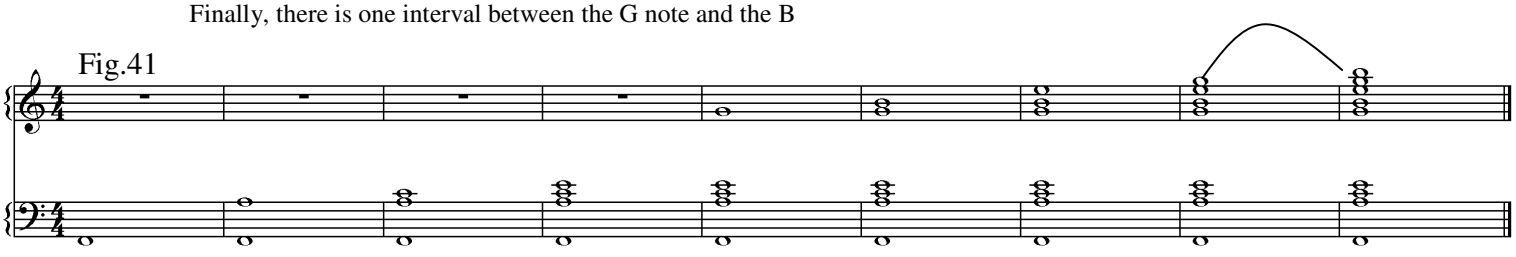
Between the E note and the remaining notes there are two separate harmonic events.

Fig.40



Finally, there is one interval between the G note and the B

Fig.41



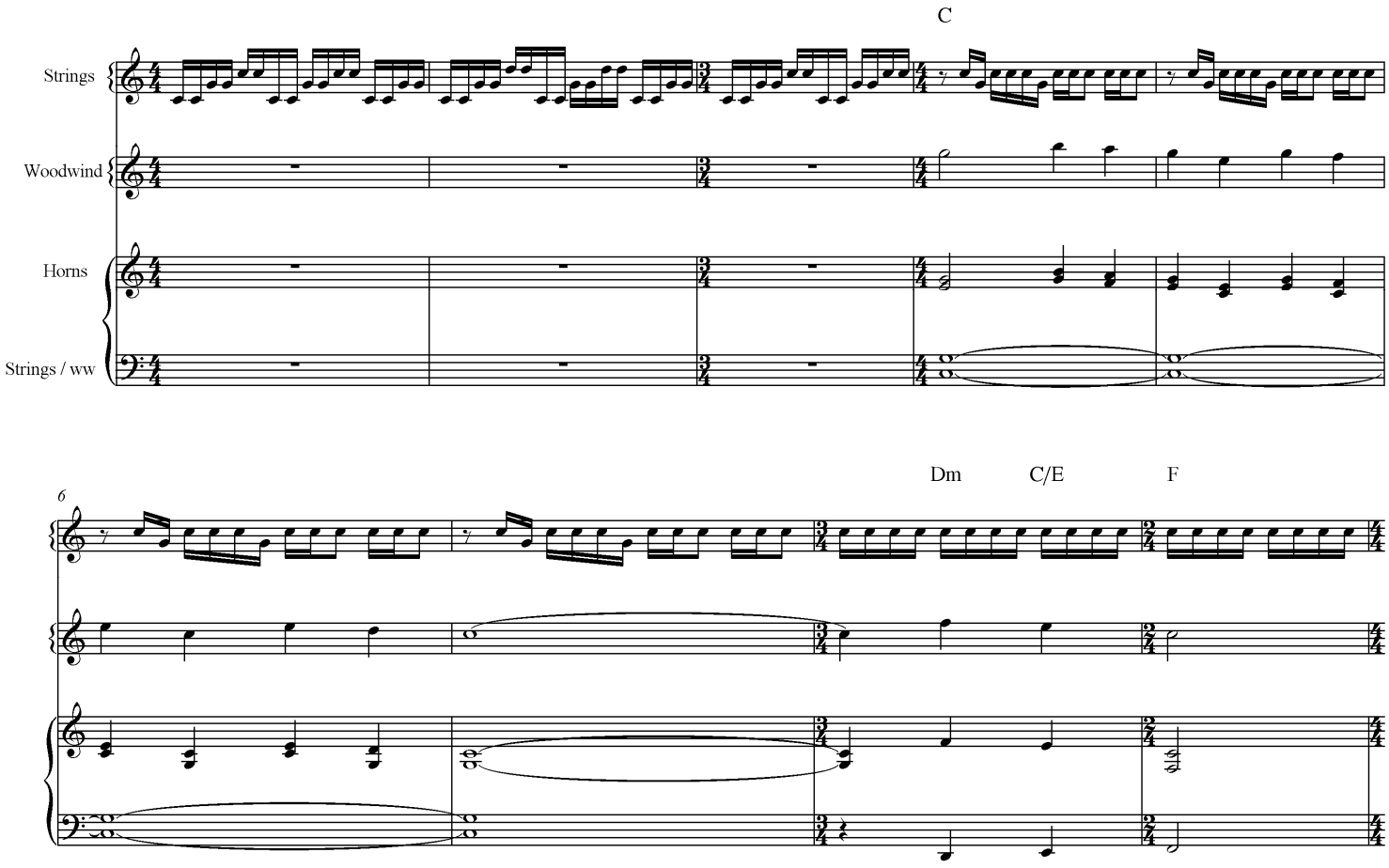
Altogether there are thirty five separate but simultaneous harmonic events in the maj9 / #11 chord. Of course we don't listen to every interval; truthfully we simply hear the result, the conclusion. But simply because we cannot rationalise every event does not mean we aren't affected by the magnitude of the harmonies or their effect. In other areas of life we are affected by events we can't see or hear and know nothing about; the same happens in harmony.

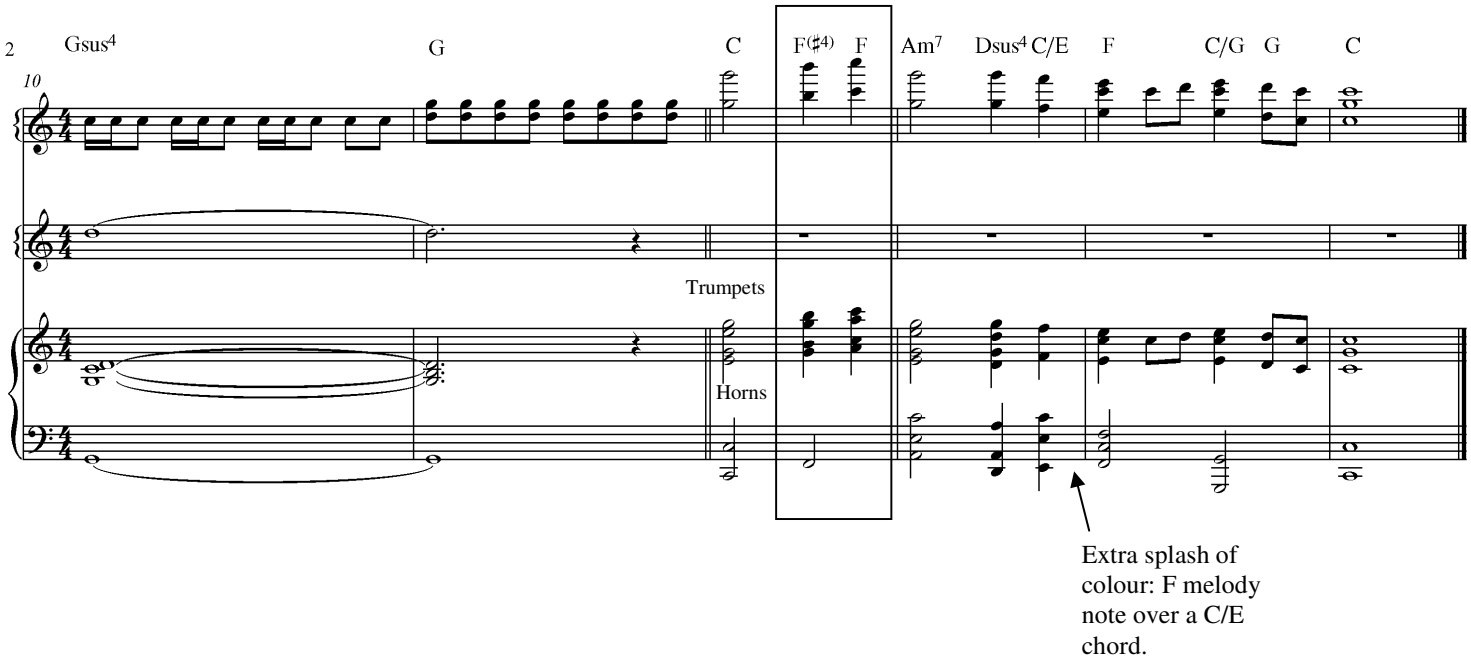
There is a similar event in 'PM's Love Theme' – a piece by Craig Armstrong in the film *Love Actually*. The theme is designed to have a feeling of authority, pomp and majesty, as can be seen by the use of roots and fifths (similar but not quite as dramatic as *Superman*). The roots and fifths are played by softer textures than the trumpets and horns in *Superman*. In this analysis the bit we're really interested in is the climactic maj9 / #11chord in bar twelve (fig.42) which, as in the *Superman* example, is the harmonic focal point of the piece.

The difference here is the context; the surroundings and the fact that the #11 chord is briefer than in *Superman*, falling as it does on one beat (beat three of bar twelve). The harmonic plateau is briefer but no less effective. The *Superman* example was more dramatic (being over the first two beats of the bar) but then the context of *Superman* was more intense than the context of how the 'PM's Love Theme' is heard, coming several times throughout the film.

LOVE ACTUALLY *Craig Armstrong*

Fig.42 *Audio – PM's Love Theme*





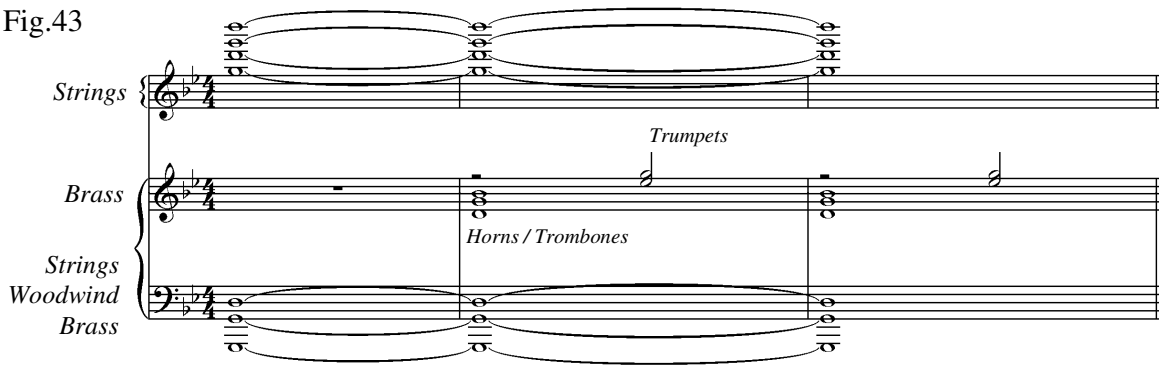
THE MATRIX *Don Davis*

The Matrix is a clever, complex and at times abstract science fiction film which portrays a future in which human reality is a false 'dream world' of *simulated* reality, created by machines to pacify the human population. The main protagonist joins a rebellion against the machines and a life in 'real' reality, with other rebels. Don Davis's pioneering and abstract score for *The Matrix* and its sequels includes, in places, a harmonic and sonic landscape which parallels the film's bold narrative.

Much of the score utilises the brash and distinctive textures of trumpets, trombones and horns, but as we have seen before, this alone does not account for the distinctive and colourful harmonic sequences, which are sometimes the result of tensions created by polyphony.

Audio - The Matrix / Matrix Revolution title theme

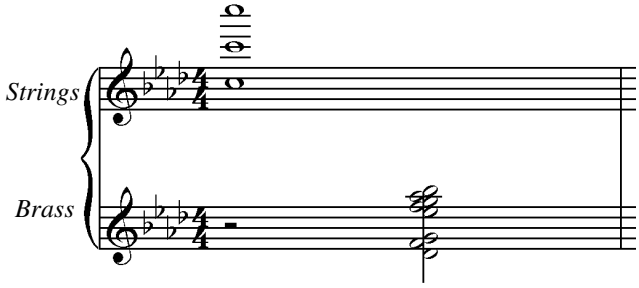
Fig.43



There is a harmonic clash in bar two (fig.43) which at first glance appears to simply be a clash between the 5th of the Gm chord (D, horns) and the min6th (Eb, trumpets).The trombones and horns state the Gm chord at the beginning of bar two, followed by the trumpets appearing to 'fade in' the Eb and G.

The reason the clash works so well is that what the trumpets are really doing is stating the 1st and maj3rd of an Eb chord; what we have is polyharmony. This is not just a theoretical harmonic interpretation, this is how people hear it; they hear two chords being stated, one complete and the other all-but complete.

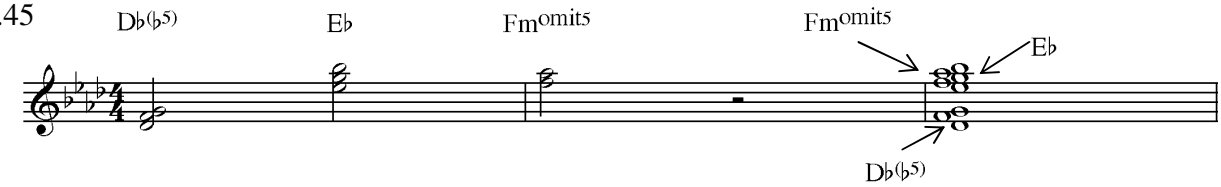
Fig.44 *Audio – 'Trinity Dream' 00.00*



Another track from the *Matrix* films entitled 'Trinity Dream' (fig.44) begins with the strings playing fifths in octaves (C notes) prior to a massive and dissonant cluster chord played on trumpets, horns and trombones. There is always a reason why dissonance works in the way it does, just as there will be a reason most consonant harmonies work in a specific way.

Because most people cannot rationalise how dissonance works with the same clarity as they perhaps understand normal harmony, there is a tendency to simply think that it's simply a bunch of random notes thrown together, the only purpose of which is not to sound nice, almost as if it were at least partly based on chance. But most dissonance used in films is just as forensically worked out as consonant music is. If we examine the brass chord from the lower stave of fig.44 we can see it is actually three chords played at once. Below I have transcribed the components (in bars one and two) of the eventual chord (bar three).

Fig.45



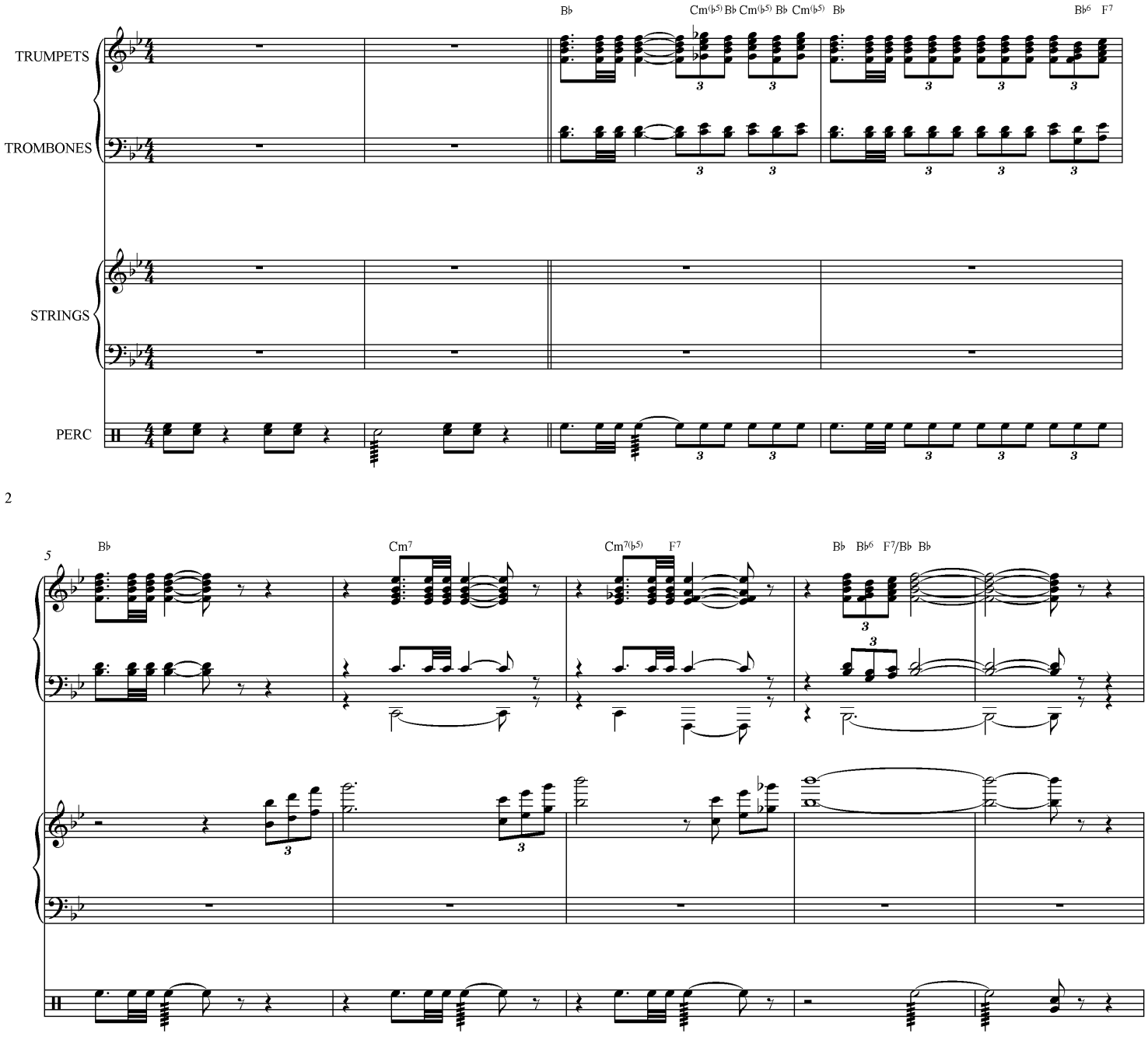
Dissonance is not chaos. It is controlled harmony and it works because of the way the harmonies and intervals create emotion and feeling. In this case the tensions we feel when listening to the chord in question are chiefly because three separate distinct harmonies are being stated at once, which is far too much for listeners to identify, classify and rationalise. But because the chord consists of three perfectly normal chords fused together, it will still possess a miniscule flavour of normality. This is not created by someone who simply presses his hands onto a keyboard and hopes for the best; this is controlled abstraction - a product of someone who understands how to harness the power of harmony in order to create tension through music.

20th Century Fox fanfare *Alfred Newman*

Alfred Newman's iconic, distinctive and instantly memorable opening theme has graced the opening for hundreds of thousands of film showings, but greater still, it has framed the way we interpret cinema as an experience. This theme, and also Jerry Goldsmith's equally iconic *Universal Pictures* opening fanfare (which we looked at elsewhere in the book) have succeeded in preparing the audience for a film experience. They have turned what was simply an experience into an 'occasion'. By the time the *20th Century Fox* or the *Universal Pictures* 'sonic logos' have finished, filmgoers are ready, waiting in anticipation. In recent years producers for some films have decided not to use the music but simply the visuals for the *20th Century Fox* (and *Universal Pictures*) logos, wanting music from the film itself to accompany the opening of the film. But still many films do use the distinctive music, which usually succeeds in not so much in setting the scene for the film itself but preparing the cinemagoer for the occasion.

If we look at a transcription of Newman's theme, it's interesting to pose the question, why the theme is so suggestive of spectacle and occasion.

Fig.44 *Audio – 20th Century Fox Fanfare*

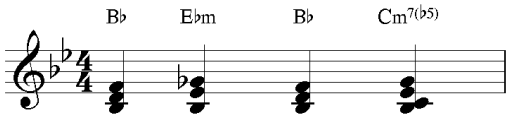


In an obvious sense we can draw simple analogies from the opening military-sounding snare and bass drum, which are suggestive of might, power, splendour, valour and courage. This is then augmented by the distinctive and iconic brass fanfare (or 'salute') which suggests pomp, gallantry and occasion.

But the use of brass in and of itself, even with the distinctive taut and clipped rhythmic phrasing, is not completely responsible for the entertainment and even filmic qualities inherent in the phrase. For these we have to look at the harmonies.

The first chord sequence in the bar below (fig.45) is between Bb and Ebm; this is a definite and unequivocal sequence. The last two chords - Bb to Cm7 (b5) represents a softer, more subtle version of the same sequence, mainly due to the last chord being slightly less absolute and 'square'; the last chord contains what is, in effect, a combination between Ebm and Cm7.

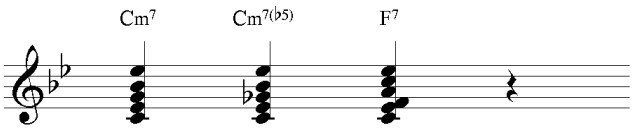
Fig.45



The Bb and Cm7 (b5) are the two chords which interchange in the opening section of the brass fanfare in fig.44. It is the unique colourful harmonic interplay between these chords, together with the brass fanfare, the bullets-out-of-a-gun style of the delivery, which make the statement so effective.

Bars six and seven of the original transcription (fig.44) feature the chords Cm7, Cm7 (b5) and F7 (written below as crotchets, fig.46).

Fig.46



The notes of C and Eb remain in the three chords; in order to enjoy the evolution of the sequence we tend to focus on the ones which move, particularly the G (5th of the Cm) evolving to the Gb (b5) and finally to the F note.

The reason we are so engaged in this particular manoeuvre is probably the sense of resolution (conclusion, relief, warmth) created by the notes Gb to F. I say this in order to prove that, even with a piece whose textural architecture is so obviously derived from colourful instrumentation and rhythm, the harmonies are what sculpture the colour.